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EDITORIALS

To That "Middle Man"--the P. A.

YEP, iffen we had our "druthers," we 'druther not be a P. A. International intrigue is simply duck soup compared to buying these days. So, when one of these guys tells us a bearing No. XYZ*-141/2-AAA is not to be had for love or money—why, it's not to be had—that's all!

That's one of the reasons they look that way. All their love's been expended and money is not worth anything (*almost*).

The reason disappointment does not show on their faces . . . is there is not any room left from yesterday's DPT's.

So, right now, go in and pat that P. A. of yours on the back—*From Black-Clawson Co.'s "Messenger."*

To Pop or Not to Pop—

MAYBE it's just another demonstration of the need of more and better public relations for the pulp and paper industry—

Both that prankishly erudite weekly The New Yorker and the usually accurate newspaper, The New York Times, and we don't know how many others, recently ran a news story that a new bag has been developed that small boys can't "pop" in the movies just when some hero or villian is getting shot. It claimed this was done when a Chicago company glued seams so lightly together they give way when a bag is blown up.

The Times, which has long had an interest in a paper mill, and The New Yorker, quite dependent on paper, too, apparently are both sublimely ignorant of the fact that the paper industry long ago developed a "noiseless bag" without monkeying with glues.

In fact, there hasn't been a bag one could pop since early 1942. The editor knows for he has tried every one he could lay his hands on.

The industry's technical men went to work early in the war and soon offered a bag which was far weaker than any seam could be. By bringing into play their vast knowledge of weakening the furnish by using waste paper and groundwood; by reducing the sizing; by speeding up the machine to open the formation, they succeeded in producing a bag that would not pop.

More important, the technical men succeeded, too, in completely nullifying that subversive campaign to re-use bags several times to save paper and thereby hurt the paper industry.

No, the technical men of the pulp and paper industry are away ahead of the glue industry's technicians. Let's hope the glue makers won't again attempt to seriously challenge the technical superiority of our industry.

Try It on Your Paper

ONE of the best illustrations of the strength of laminated or multiwalled papers makes a good parlor, restaurant (or bar) trick. No sheet of paper, whether it is a postage stamp or as big as a 24-sheet poster, can be folded more than nine times, and usually not more than six. Go ahead and try it.

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Employes to Own Homes—A Sign of Permanence For Crossett Industries in Arkansas

Employes of Crossett Industries, operators of a lumber mill and one of the most progressive paper mills in the South, are going to own their own homes—another sign that permanence really has come to this thriving industry in Arkansas.

A high-speed 210-inch Fourdrinier is producing kraft here and a Chase Bag plant is an addition that will build up the community to even greater scope. Operators here have also been interested in Oregon woods operations.

Sale to occupants of 952 houses comprising the residential section of company-owned town of Crossett, Ark., is being effected by the Crossett Industries.

The offer was based on 15 per cent down, and the company brought about the opening of a finance company branch to handle the credits. Prices were placed below pre-war.

Establishment of a 500,000-acre self-perpetuating forest to support operations of the lumber mill, the Crossett Paper Mill division, and a wood product chemical plant has given permanence to the community making home-ownership practical.

Valuations were set by an independent appraisal firm.

The Crossett-Watzek-Gates interests established the Crossett Industries as merely a lumber operation in 1901. Peter F. Watzek is the resident head of the operations and a vice president, E. C. Crossett is president and J. W. Watzek, Jr., is vice president, in Chicago. K. O. Elderkin, former Canadian operator, is manager of the Paper Mill division.

For H & W-60 Yrs.

M. L. MADDEN, Chairman of Hollingsworth & Whitney Co., 60 Batterymarch St., Boston, completed 60 years with the company and reached his 81st birthday last month. He is father of James L. Madden, president.

After working as a store bookkeeper in his former home, Rochester, N. Y., Mr. Madden was one day late on his new job with H & W in 1887, because he didn't realize New Year's Day was NOT a holiday in Boston.

Starting in the Gardiner, Me., mills and later in accounting department, Mr. Madden had worked up to Vice President by 1911 and President in 1931. He developed the sliding scale method of estimating grade costs by his company. He directed purchase of the company's first timber in 1896, building of the sulfite mill at Winslow, Me., and entry in Southern sulfate field in Mobile, Ala.

Les "Lefty" Smith Takes Over As Kalamazoo Mill Manager

Lester J. Smith, member of a family well known in this industry, has taken over as mill manager of the Bryant Division of St. Regis Paper Co., Kalamazoo, Mich. This big multi-machine mill and important coated book paper producer was formerly Bryant Paper Co.

Mr. Smith, who had been mill manager at Combined Locks Paper Co., Combined Locks, Wis., for the past six years, will serve under General Manager Peter J. Massey, TAPPI'S 1947 Gold Medal winner. While owned briefly by Times, Inc., the Bryant industrial facilities were greatly extended and Mr. Massey's duties cover all of them.

Lester and his brothers are noted as a family of athletes as well as for their other activities. One brother, Red, coaches the Chicago Cubs National League baseball team in the summer and in the fall is coach of the New York Giants football team. Lester himself was a famous home-run hitter in the Fox River region of Wisconsin. He played the outfield for the University of Wisconsin and had a brief experience with the Detroit Tigers of the American League. His younger brother, Ray, now a forester for Northwest Paper Co., Cloquet, Minn., was also an athlete.

Their father, Paul Smith, retired superintendent at Blandin Paper Co., is no doubt the best informed historian and statistician as far as the athletic records of his sons are concerned.

Lester Smith, a graduate mechanical engineer, helped build the Great Lake Paper Co. when he got out of college in 1923 and after that with International mills in Ticonderoga and Glens Falls, N. Y., with Thilmany Pulp & Paper Co. and Combined Locks for a short period in the early '30s before returning there six years ago.

LESTER J. "Lefty" SMITH, who is new Mill Manager of Bryant Division of St. Regis Paper Co., Kalamazoo, Mich. With his wife and three daughters—7 to 17 years—he has moved to the Kalamazoo paper community from Kaukauna, Wis. He is the son of Paul Smith, veteran Superintendent of Blandin Paper Co., Grand Rapids, Minn., who is now in semi-retirement and serving as advisor.

St. Regis Closes Deal With Time, Inc.

St. Regis Paper Co. has completed the purchase of three paper mills from Time, Inc., according to announcement by Roy K. Ferguson, president of St. Regis.

This previously reported transaction will add 180,000 tons to St. Regis' annual output of printing, publication and converting papers. St. Regis acquired Maine Seaboard Paper Co., (3 machines-2-214 in., 1-80 in trim) Bucksport, Maine; Hennepin Paper Co., (1 machine-111in.) Little Falls, Minn., and Bryant Paper Co. (7 machines from 112 in. to 152 in.), Kalamazoo, Mich. The first two mills have been operated by St. Regis for almost a year. The company issues to Time, Inc., 50,000 shares of its new 4.40% first preferred stock and 550,000 shares of common stock. An annual maximum of 85,000 tons of St. Regis publication paper will go under long-term contracts to Time, Inc.

Plans for New York Paper Week; Worthen Brawn Will Head TAPPI

Well over a thousand paper company executives, pulp and paper makers and engineers and salesmen were making plans as this issue went to press to converge again on the Grand Central station region of New York for Paper Week beginning Feb. 24.

Reuben B. Robertson, president of Champion Paper & Fibre Co., probably will be prevailed upon to accept the customary second year's term as president of the American Paper & Pulp Association which begins its meetings that day in the Waldorf-Astoria.

Worthen E. Brawn, general superintendent at the Pejebscott Paper Co., Brunswick, Maine, is slated to succeed G. W. E. Nicholson, vice president of Union Bag & Paper Corp., New York, as the president of TAPPI.

And moving up right behind Mr. Brawn for a future term as the president is a well known Southerner, Wilbur F. Gillespie, technical director of Gaylord Container Corp., Bogalusa, La.

At least that is the ticket lined by J. R. Atwater and his TAPPI nominating committee. Among the open positions on the executive committee of TAPPI, J. D. Davis, of Mead Corp., Philadelphia; K. P. Geohegan, Howard Paper Co., Dayton, O., Allen Hill, of Gaspesia Sulfite, Quebec; Ralph Wilkins of Bird & Son, East Walpole, Mass., and Werner Kaufmann of Kupfer Bros., New York, are lined up to join others whose terms carry on.

The Salesmen's Association announces it will have Governor James L. McConaughy of Connecticut for its luncheon speaker at the Waldorf Grand Ball Room on Tues., Feb 25. Tickets at $6 are available from E. G. Amos, association secretary, 122 E. 42nd St., New York 17.

The National Council for Stream Improvement has meetings scheduled Monday through Wednesday at the Waldorf.

T. A. "Doc" Cook Elected a Director

Theodore A. Cook, manager of the big Charleston, S. C. plant of West Virginia Pulp and Paper Co., has been elected to the board of directors of the company.

Mr. Cook has been manager at Charleston since construction of the plant was begun in 1936 and has served with the company for 37 years. He began as a chemist following graduation from Pennsylvania State College in 1909 and was superintendent of the pulp mill at the Tyrone, Pa., plant when he was appointed manager of the Charleston plant.

Mr. Cook was elected to the board to fill a vacancy created by the recent resignation of Edwin S. Hooker.

Brunswick Mill Names Key Men

Guidance of the principal functions of the Brunswick Pulp and Paper Company's plant at Brunswick, Ga., will be in the hands of five top men working directly with the plant manager, according to Gordon K. Singletary, who holds that position.

Walter J. Brown, who served as assistant general superintendent, has become superintendent in charge of operations and mechanical maintenance.

The other four include N. H. Mailhos, power superintendent; M. B. Pineo, technical director; W. W. Krauss, plant engineer; and, J. R. Girardeau, woodyard superintendent.

Kirk Sutlive Honored

W. Kirk Sutlive, public relations director of Union Bag & Paper Corporation, Savannah, Ga., was recently elected president of the Kiwanis Club in that city.

Addition to Bastrop Mill Is Okayed

R. J. Cullen, chairman of the board of International Paper Company was a recent visitor at the company's Bastrop, La., plants, where his old home was opened after having been closed during recent years.

With Mr. Cullen were Erling Riis, of Mobile, Ala., vice president in charge of southern production, who recently disposed of his property in Bastrop.

The company had obtained a CPA permit to construct a $445,000 pulp and paper addition to the plant.

Atlanta Meeting Of Southern Foresters

The 1947 Southern Forestry Conference, held under the auspices of the Forest Farmers Association Cooperative, will be held at the Ansley Hotel, Atlanta, Ga., on February 19-20, according to Paul W. Schoen, executive secretary. Timberland owners and foresters from 12 southern states are expected to participate in the sessions.

Glassine Conversion In Louisiana

A new plant for the production of glassine bags, candy wrappers, cellophane bags and other food specialty lines is under construction by the Bardwell Bag Corp. in Gretna, La., across the Mississippi river from New Orleans.

The plant is of two story brick and concrete construction and contains 10,000 square feet.

Dewey D. Bardwell is president of the new company. Others include: Henry D. Childers, vice-president; Donald A. Palmer, secretary; and, Alvin H. Howard, Alfred J. Moran, Alden W. Muller, as other directors.

Aries Speaker At Delaware TAPPI

Robert S. Aries, field director of the Northeastern Wood Utilization Council and a member of the faculty of the Polytechnic Institute of Brooklyn, was speaker of the evening at the January meeting of the Delaware Valley section of Tappi held on the 3rd at the Engineers' Club, Philadelphia.

Beloit Builds Largest Super-Calender

World's largest super-calender of 10 rolls under construction at Beloit Iron Works, will include two of the largest spherical roller bearings ever built, each more than two and a half tons, and designed for load-carrying in excess of 4,000,000 lbs. These and 18 other bearings, 2 of 2,700 lbs. each, are being machined by SKF Industries.

The super-calender is for Kimberly-Clark's Niagara, Wis., mill.

Packaging Conference Will Be Held in Philly

The American Management Association Conference on Packaging, Packing and Shipping will be held in Convention Hall, Philadelphia, April 8-11.

Donald Hardenbrook Weds Actress Helen Vinson

Donald J. Hardenbrook, a vice president of Union Bag & Paper Company, New York City, was married in December to Helen Vinson, the motion picture star, in Christ Methodist Church in Manhattan. They went to Hollywood for their wedding trip.

In addition to his post with Union Bag, Mr. Hardenbrook is well known as an investment banker. He is a great-great grandson of one of the founders of the New York Stock Exchange.

A Suggestion Re Newsprint

INSTEAD of bellyaching about the paper shortage, newspapers should do something about it, the Chicago Tribune suggested in a recent editorial titled "The Paper Shortage." Says the Tribune: "The condition is not temporary. The mills in Canada and the U. S. are expected to turn out more newsprint next year than ever before, but the supply will be inadequate even though machinery will be used to capacity. Building new mills will not solve the problem wholly, because available timberlands that supply pulpwood are also limited. The long range prospects thus are hardly more encouraging than those for the immediate future.

"Pending development of other raw materials than spruce and balsam, the only relief in sight is more efficient use, and particularly re-use, of available materials. It is estimated only half of the newspapers sold get back to the mills for reworking. . . Instead of crying about the shortage, let the publishers use their circulation organizations to pick up 50% of their newspapers that are now wasted after being read."

"Uncle Jake" Kindleberger's Career One of Most Colorful in Industry

Jacob Kindleberger, founder and for 20 years president of the Kalamazoo Vegetable Parchment Co., died New Year's Day morning in a Kalamazoo, Mich., hospital. He was 71.

One of the most colorful and dynamic personalities in this industry, "Uncle Jake" had been in failing health for some years. He turned over the presidency of KVP to Ralph Hayward in 1936 and has since been chairman.

Mr. Kindleberger lived to see his company become one of the foremost in this industry and to complete its own pulp mill in Ontario, a few months before his passing.

Born in Roumbach, Alsace-Lorraine, he came to the U. S. in 1880 and began his career with more than the average immigrant's share of handicaps. He rose from a rag sorter in a West Carrollton, Ohio, paper mill and by 1909 founded KVP. He also established Parchment, the model community that grew up around the Kalamazoo plant.

At the age of 10 he began work for 25 cents a day in the West Carrollton paper mill. Because of poor eyesight he was unable to attend school.

At 21 Mr. Kindleberger took a job as janitor of the local school at $20 a month—less than he was earning at the mill—because he was permitted to attend classes. He qualified for the fourth grade and in four years he was able to enter Ohio Wesleyan University. To pay his way and help support his family, he sold paper, books, hat racks, steam cookers and other household articles. In his third year in college, however, he was forced to quit for fear of going blind.

Although he was then making $100 a week selling steam cookers, he took a job with the West Carrollton paper mill at $15 a week, because he felt this job had a future. For the next 13 years as salesman for the concern he visited every important city in the U. S. and Canada and became one of the best-known road men in the paper industry.

A brother-in-law, Harry Zimmerman, in the paper industry in Kalamazoo wrote him that there was opportunity for a new mill in the place. Mr. Kindleberger sold Kalamazoo businessmen on the idea. He began with one cheap machine in an abandoned beet-sugar factory. There were no houses for the workers, who were obliged to live in tents and cook their own meals. The enterprise was on its last legs when Mr. Kindleberger overheard two women on a trolley car complaining that there was no satisfactory shelf paper.

Mr. Kindleberger went back to the mill and started to make shelf paper. In this virgin market, his paper sold at once. From that idea he got others; to make paper in forms suitable for home use—as covers for ice, for the care of babies, etc.

His deeply religious nature and his abiding hatred of "stuffed shirts" were features of his character that will long be remembered.

An only son, Joseph B., is connected with the company as is another relative, Charles Kindleberger, purchasing agent. His widow survives.

EDGAR H. DEMPSTER (center) is congratulated by JOHN H. SMITH, President and General Manager, for his 38 years as groundwood superintendent of Hawley Pulp and Paper Company, Oregon City, Ore. L. SMITH, Converting Plant Superintendent (left), is holding the watch and standing beside the silver tableware set presented to Mr. Dempster by employes, supervisors and management at Portland, Ore., staff dinner. With Mr. Dempster's retirement, Mr. Smith becomes Hawley's "Old Timer."

1947 To Set Records, Predicts U. S. Dept.

Production of paper, paperboard and paper products in 1947, it is estimated, will be about 5% above 1946 level on a tonnage basis, the U.S. Department of Commerce predicts.

Dollar sales in 1947, on the other hand, will be between 10 and 20 percent greater than last year, owing to an increase in volume, quality and price.

Current estimates indicate that approximately 19 million tons of paper and paperboard were produced in 1946, an all time high tonnage. An increase of 5 percent would raise 1947 production to 20 million tons.

Newsprint Production In Canada Sets Record

Production of newsprint in Canada in 1946 attained a record total of 4,150,000, according to an unofficial year-end estimate.

November's production was 364,304 tons, 101.2% of rated capacity, the highest recorded. Production for the first eleven months of 1946 was 3,801,441 tons, exceeding any previous year's total. In 1945 the total was only 3,259,208 tons, an all-time record up to that time.

Shipments from Canada during the first eleven months of 1946 represented 78% of the total U. S. supply.

Peter J. Massey to Receive TAPPI Gold Medal

TAPPI'S fifteenth gold medal will be awarded to Peter J. Massey, general manager, Bryant Paper Co. Division of St. Regis Paper Co., Kalamazoo, Mich. The award will be made February 27th, 1947, at the annual luncheon of TAPPI at the Commodore Hotel, New York City.

NEW 65-TON PAPERBOARD MILL AND BOX PLANT IN CALIFORNIA

One of the oldest paper box manufacturing firms in Southern California is entering the field of paperboard manufacturing.

Angeles Paperbox Co., south of Los Angeles, has begun moving into what will ultimately be one of the most modern and complete paperboard and box plants in the country.

Ultimate plans call for a four-part operation by Angelus: (1) a 65-ton (daily) paperboard mill, (2) a folding box department, (3) a set-up box department and (4) a corrugating unit.

Each of the four operations is to be housed in a separate building, all buildings adjoining and so grouped as to provide a straight-line production flow from raw materials to finished paper products.

At this writing, buildings for both the paperboard mill and folding box plant are completed, equipment is being installed, and operation of the folding box plant was the first to begin in early January.

The recent coal strike indirectly caused a delay in the beginning of operations on the paperboard mill; the freight embargo brought about by the strike held up delivery of a few units remaining to be shipped from Eastern factories.

Construction of the new buildings for the set-up box and corrugating plants, last two units, is waiting until building conditions in Southern California shake down into something resembling stability. At present both operations are housed fairly satisfactorily else where and will be moved to the new building group as soon as buildings can be erected.

The paperboard mill occupies a new, modern stucco-and-concrete building 85 ft. by 450, adjacent to a railroad siding. The single paper machine is a 60-dryer Black-Clawson unit, with provision made for 46 additional dryers. For the present, the machine will have 23 two-deck dryers, 23 stack dryers and 14 additional two-deck. Future plans call for changing the 23 two-deck to 3 sections, 23 each, of stacked dryers. The machine is driven by a Terry turbine. Cylinder molds and press rolls are driven by General Electric amplidyne drive.

Stock Preparation

Stock preparation equipment is ultra-modern. One of the two Shartle Brothers Hydrapulpers, 12 ft. in diameter, works on a continuous basis, producing filler stock. The other, a 10-ft. diameter unit, is operated on a batch basis for liner stock. Provision has been made for a third Hydrapulper, to be installed in the future. The Hydrapulpers are electrically driven by Westinghouse wound-rotor motors. Westinghouse synchronous motors provide motive power for the jordans.

R. W. ("Bob") STEVENS, veteran paper mill man and widely known among paper men both East and West, is the new Superintendent of Angelus Paperbox Co.'s new $2,000,000-plus mill near Los Angeles, scheduled to start operations in Jan. 1947.

In operating the batch Hydrapulper, one batch of stock is delivered to a series of chests and refined while the following batch is being prepared in the Hydrapulper.

A major unit in the stock preparation system is a new Shartle stock-cleaning system, consisting of a 100-ton grit remover with complete auxiliary cleaning equipment, secondary Selectrap screen, classifiner with stock thickener, and disintegrator pump. Dilts Hydrafiners refine the liner stock, with cycling chests for storing the liner stock. Eight Shartle Agiflow chests, with Agiflow stock pumps, and three Shartle Miami No. 1 jordans figure in the mill flow chart.

Two Black-Clawson overflow vats of latest design, complete with hydrodynamic inlets, will handle the liner stock, while four Standard Black-Clawson Counterflow vats will prepare the filler stock for the dryers. Provision has been made for a third overflow vat.

At the delivery end of the machine is a Cameron Winder, with Black-Clawson duplex cutter which cuts rolls or sheets, or both at the same time. The winder is driven by a General Electric wound-rotor motor, with Cutler-Hammer controls. The mill will produce all grades of folding and set-up boxboard, and test liners.

Capacity is about 65 tons a day to start, with a potential of 100 tons. A Union Iron Works Type S boiler delivers the required 20,000 lbs. of steam per hour to run the plant. Electric power is supplied by the Southern California Edison Co.

The converting plant boasts complete equipment for turning out all types of paper boxes. It will use about 400 tons of paperboard per month. The set-up box department uses about 200 tons per month, and the corrugating plant some 900 tons per month. The Bay Cities Paper Box Co., Oakland affiliate of Angelus, will use a sizeable share of the folding and set-up boxboard produced by the new paperboard mill.

The buildings, which compose an impressive industrial unit in a growing manufacturing section of Greater Los Angeles, were designed by architect M. J. Gabrielson. The four-unit project will cost well in excess of $2,000,000.

Albert E. Stein is the veteran president of Angelus Paperbox Co., one of the pioneer industrial enterprises of Southern California.

Robert W. Stevens, who designed and laid out the plant as an independent consultant, joined the staff of Angelus last August and remains as manager of the paperboard mill. Stevens, one of the best-known men in the Southern California paper industry, has a lifetime of experience in paper mills, the last chapter of which was his two-year-and-a-half tenure as managing superintendent of West Coast Paperboard Mills Inc., in Los Angeles.

Ellis, Pioneer in Field Of Insulation, Dies

George H. Ellis, 80, veteran member of the Minnesota & Ontario Paper Co., and pioneer in insulation board development, died Nov. 23 at Orlando, Florida, where he had made his home for eight years.

Mr. Ellis was consultant engineer for the Insulite Division of M & O since 1924, and had been closely identified with the manufacture of insulation board since he developed structural insulation in 1906.

THE BROWN COMPANY

Men and Research

History of a Pioneering Company, including the Story of How It Carried on Research. Future program—from Public Relations to Plans for Using Hardwoods

Not long ago the members of Local Union 12175, District 50 UM WA, in Berlin, N. H., gave a dinner honoring employes of Brown Company who have been with this pulp and paper organization for 50 years or more. One of the honor guests remarked, "If I had my life to live over again, I would choose to live it with the company."

A company which inspires such an observation has to be a remarkable one. What are the reasons for the satisfaction of these men? There are several, but perhaps the basic one was illustrated that same evening in a conversation between an employe and an executive. The employe, who had in his time suffered serious illness and financial difficulty, declared, "I would not be here tonight if it weren't for Brown Company." The executive replied, "Let's put it another way. The company would not be here today if it were not for men like you."

This friendly relationship and the growing understanding that the interests of employee and management are interlocked, are apparent throughout the Brown organization as it stands today on the threshold of a modernization program of widespread interest to the industry.

Brown Company in 1947 is but the lengthened shadow of many men whose enterprise and vision brought the organization into being. First among them was William Wentworth Brown, although his shadow today would be less clear and long except as seen in the understanding sunlight of the present management. Like many another, Brown Company found itself in difficulties in the depression years. These difficulties, brought about by world-wide conditions, were somewhat intensified by shifts in the balance within the pulp and paper industry itself. The present management is bringing the company into earnings, is in a position not only to modernize the mills at Berlin and La Tuque, in Canada, but to erect a modern sulfate pulp mill at Berlin.

There run through the fabric of the present management strong threads of continuity from the old. Orton B. Brown, son of the founder, is a director of both Brown Company and its wholly owned Canadian subsidiary, Brown Corporation. Ernest H. Maling is a vice president in charge of finance and accounts and is also treasurer. Downing P. Brown, also son of the founder, is vice president in charge of sales. Wentworth Brown, grandson of the founder, is vice president in charge of manufacturing both for Brown Company and Brown Corporation. Edgar Morris, works manager at Berlin, has been with the company throughout his adult life. Such continuity is not limited to the higher echelons. There are 18 employes with a 50-year record, and more than 1,100 who have been with Brown for 25 years and more.

A list of voting trustees and directors of the company and the corporation reads like a roster of New England and Canadian finance and brains.

Frederic G. Coburn, the president, is a graduate of the U. S. Naval Academy, and an industrial engineer with many significant achievements to his credit. For many years he was an active partner in the consulting firm of Sanderson & Porter. After a long and distinguished career as a naval engineer he retried from the service and went into business. The choice of Mr. Coburn for the presidency of Brown appears to have been a happy one. Even in the far woods of Maine, the company men know him as "Fred." He gets things done and knows what is going on. Executive offices are at 500 Fifth Ave., New York, but he is likely to be anywhere from the Cascade Mill in Berlin to Rangeley Lakes in Maine to La Tuque in the north.

FREDERICK G. COBURN, President, The Brown Co., whose office is at 500 Fifth Ave., New York, but he's liable to be anywhere from Berlin, N. H., to La Tuque, Quebec, mills. Annapolis naval engineering and Wall Street were chapters in his background.

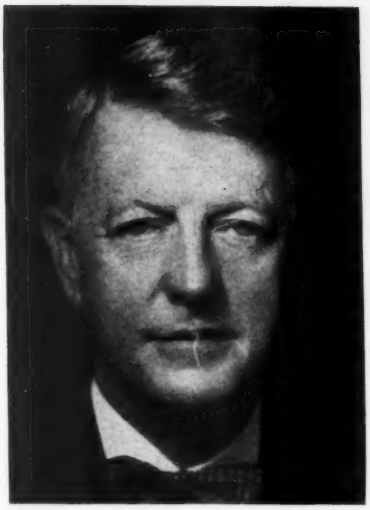
OUR COVER PICTURE

Brown Cascade Mill and its relationship to the Berlin operations which are also on the Androscoggin River. An edge of the town of Berlin, New Hampshire, is seen at the far right (Fairchild Air Photo).

In Berlin (new Englanders accept the first syllable), they like to tell you that there would be no pulp and paper mills in the city if there had been no engagement between the Monitor and the Merrimac. This is their way of dramatizing the fact that the Civil War changed the course of New England industry. Specifically, they mean that William Wentworth Brown, born at Clinton, Me., in 1821, had been engaged in the production of ship's knees at Bangor and later at Portland. After the engagement between the Monitor and the Merrimac, with its implications for ship construction, Mr. Brown at the age of 47 was looking for a new business.

In 1852 a group of Portland business men had built a dam and a sawmill on the Androscoggin River at Berlin, which had just been opened up by the Grand Trunk and St. Lawrence Railroad. Mr. Brown bought a controlling interest in this mill and established the head office on the site of buildings now at 404 Commercial St., Portland. There he expanded his plans until the daily lumber production at Berlin ran to 150,000 feet per day. When the mill was destroyed by fire, he rebuilt it to manufacture 200,000 feet. By then he had branched out into a kyanizing plant for the preservation of spruce lumber.

But Mr. Brown began to perceive changes in the character of the industry. He began to think in terms of pulp and paper. When he purchased his interest at Berlin, paper



DOWNING P. BROWN, Vice President in Charge of Sales, The Brown Company. The General Sales Office is at 500 Fifth Ave., New York, with branches in Boston, San Francisco, Chicago and Montreal.

was made almost entirely from rags with some admixture of straw and soda pulps. But Tilgham was developing the sulfite process at Manayunk, Pa., and since 1892 there had been a simple groundwood mill at Stockbridge, Mass. Mr. Brown had economical wood, adequate water power, rail facilities, and good labor supply. He began to make paper in 1892 at the Riverside Paper Mill, with daily capacity of 40 tons. This mill is now producing engineered converting papers. In 1892, T. P. Burgess built a sulfite mill on the east bank of the river, Mr. Brown taking a 50% stock interest. Later Mr. Brown acquired full ownership. This historic mill has been in operation ever since and is now being rehabilitated to be coordinated with the new modern sulfate mill.

H. J. Brown, son of the founder, who had been residing in Berlin, now removed to Portland as treasurer of the organization. In the year of the sulfite mill completion, Orton Brown came to Berlin as superintendent, and later was general manager.

Development of Pulp

The growing market for bleached pulp led to the building of the electrochemical plant in 1898. The company now was selling lumber, treated timbers, groundwood, bleached and unbleached sulfite, and newsprint. To add to the production of newsprint, the Cascade mill was built and four 164-inch machines were installed. It was the largest self-contained unit making both raw pulps and the finished product at one plant, and is believed to have been fastest newsprint mill at that time—550 feet per minute. By 1906, the Burgess mill had increased production to 400 tons of sulfite pulp daily, making it the largest chemical pulp plant then in existence.

Meanwhile, timber holdings were increasing. Some of these were on the St. Maurice River in Canada and so the water power at La Tuque was acquired—the last fee-simple water privilege granted in the Dominion. One of the first sulfate mills on the North American continent was built on this site in 1910. Kraft paper was almost unknown in America, although Scandinavians had been making it.

Using La Tuque pulp, the company began at the Riverside mill, one of the first operations producing kraft paper in the United States. In 1912, when the import duty was removed from newsprint with resulting severe damage to the U. S. market, the Cascade mill was changed from newsprint to kraft. By 1917, the company was out of newsprint completely, and making 200 tons of kraft daily, 9% of all kraft in North America. Nibroc-Kraft became a recognized standard for quality.

Few of its customers—and certainly almost none of the users of end-products made with Brown paper—realized the scope of this inter-related group of industries which had grown out of a sawmill in the White Mountains. During the first World War a plant was constructed for manufacture of shell

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WENTWORTH F. BROWN, Vice President in Charge of Manufacturing, The Brown Company, 500 Fifth Avenue, New York City.

containers for six-inch guns, from fibre tubing. This plant became the present Tubular Products Mill now manufacturing conduit and sewer pipe and fibre cores. The company then developed high alpha pulps, following kraft towels, using its own chemicals to achieve astonishing wet-strength properties. The chemical plant had outgrown the mere production of bleached liquor and caustic, and gone into the production of liquid chlorine and chloroform. Sulfur chlorides were made, and carbon bisulfide; then the latter was used to make carbon tetrachloride.

However, the main lines of endeavor, pulp and paper, were not forgotten. To crystallize the six divisions of Brown Company as to products, there are:

Pulp

The Northern Spruce and Northern Birch, grown mainly on Brown's own timberland properties in northern New England and Quebec, supply the fibers known as Solka, Cellate, Burgess Standard and Dur-Alba. From these four basic pulps and from their many subdivisions, by varying proportions, many types of paper can be made.

Brown Company claims to be alone in the ability to offer a complete combination of grades. Solka, Burgess Standard and Dur-Alba are acid sulfite process pulps, made at the Burgess Mill in Berlin, while Solka, Cellate and sulfate made by the alkaline sulfate process, are products of the La Tuque mill. Future plans call for production of alkaline sulfate pulp also in Berlin, to be absorbed mainly by the com-

The white rectangle indicates the site of the new sulfate mill being built by the Brown Company at Berlin. In the lower foreground is the Onco mill and to its left is the tube plant. In the far background is the Riverside mill. Next to the white rectangle is the old Burgess sulfite mill which will be eventually renovated and in conjunction with which the new mill will operate.

pany's paper mills. Following is a partial list of papers made from the four basic pulps: vegetable parchment, facial tissue, saturating and absorbent base, photographic and sensitized, air-dried bond, ledger and envelope, papeterie, wedding and announcement, book, offset and mimeograph, index, tag and cover, tissue, creped tissue, electrical tissue, wrapping, glassine and greaseproof, coated patent coated and folding board, and bag and heavy duty.

Brown also produces high alpha dissolving types pre-eminently suited to manufacture of transparent films.

Paper

Brown Company, using principally its own pulps, manufactures five basic grades of paper sold directly to converters, Nibroc Kraft, Nibroc White, Nibroc Aqualized, Nibroc Duracel and Nibroc Solkacel. The items made by the company's paper mills are used as base stock for a host of widely diversified end products: Abrasive papers by the automotive and furniture industries, repaint shops and other industrial units; asphalt laminated papers as waterproof liners for multi wall sacks, protective wrapping of export shipments, building construction and curing of concrete; multiwall sacks for packaging of agricultural products, cement and chemicals; bags and sacks for coffee, tea, sugar and flour; wet strength sacks for potatoes and frozen food; masking tape for automotive, airplane, shoe, textile and other industries; drapery material for interior decorating; gummed sealing tape for packages; open mesh bags for citrus fruits, onions and other agricultural products.

Towels

Brown claims to be the largest producer of paper towels for institutional and industrial fields. Nibroc Aqualized Towels are used extensively in factories, office buildings, schools, hotels, hospitals, and government buildings. They are of the company's sulfate pulp, both bleached and unbleached, and the "Aqualized" process imparts wet strength. Brown produces a metal cabinet designed to give the best service with these towels.

Onco

An insole is the foundation of shoe construction; the entire shoe, from upper to outsole is built around it. Brown introduced the Onco cellulose insole in 1928. Onco has gained nationwide acceptance in the women's shoe industry. It is made of highly purified cellulose impregnated with a strong saturant which gives it added fiber strength with light weight. It is flexible, conforming to the shape of the foot, uniform in thickness, texture, quality and shoemaking characteristics, and has excellent insulating qualities against sidewalk shock, heat and cold. It is said to represent the only cellulose insole on the market that carries one-company control from the tree itself to the finished product.

Tubular Products

Brown Company manufactures Bermico Fibre Conduit, which, used as a subsurface raceway, makes possible the installation of electrical distribution systems, safeguarding cables from mechanical injury and eliminating dangerous overhead wires.

The conduit consists of hollow tubing with a homogeneous wall made of finely divided wood pulp that is formed, dried, and thoroughly impregnated with coal tar pitch, which completely waterproofs it.

Bermico sewer pipe is made of the same material. It is used, however, for underground non-pressure conduction of fluids, such as sewage. Bermico Fibre Cores are made at the same mill, but contain no pitch. Metal ends are spun into the ends of these cores. They are used by newsprint, kraft and book paper mills.

Bermico Fibre shell rolls are for use on the special winding equipment of rubber, cellophane and textile mills.

Flock

A derivative of one of the basic fibers (Solka) is SOLKA-

FLOC, a pure alpha flock, or finely divided wood cellulose used widely in manufacture of rubber, plastics, adhesives, plastic wood, coated fabrics and filter aids, in coating welding rods as well as in many other industries.

Chemical Division

The company sells its surplus of chemicals in the following markets: Liquid chlorine to pulp, paper and textile mills and for water purification; Technical chloroform for penicillin manufacture, vitamin extraction and as a solvent; Anesthetic chloroform for drug supplies and as anethesia; Soda bleach for textile plants, laundries and water purification; Liquid caustic soda to soap manufacturers and pulp mills; Para-cymene as a solvent.

The company musters a good many reasons for styling itself "foremost producers of purified cellulose." Its trade mark is a shield at whose apex is the word "Quality" and whose central device, flanked by trees, is the hand of a scientist holding a test-tube aloft. There is significance in this insignia, for a tradition of research in Brown Company reaches back considerably further than the year 1915 when the first of the two present research and development buildings was erected. It was manifest as early as 1888 when W. W. Brown built his kyanizing plant, and was exemplified when the kraft mill literally revolutionized the sulfate process in this country. The contributions of Brown Company to the industry are impressive. A documented chronology of pioneering is presented with this article.

Research and Personnel

The first director of Brown Company research was Hugh K. Moore, who in 1920 received the gold medal of the American Institute of Chemical Engineers for "the best contribution to applied science since 1913," and in 1925, received the Perkin Medal for "the most distinguished service to applied chemistry" in that year. Dr. Moore served as President of the American Institute of Chemical Engineers in 1925-1926.

Notable contributions to the company and to the industry were also made by George A. Richter and Milton O. Schur who followed Dr. Moore as directors of research. Research expanded tremendously following World War I with the return of Major (now Colonel) Richter,

EDGAR E. MORRIS, Works Manager, The Brown Company, Berlin, New Hampshire.

who brought with him several men from the Chemical Warfare Service. William E. Corbin (from whose name "Nibroc" comes) is still recognized as an outstanding kraft expert.

It is with this background accomplishment that the Research and Development Department continues to move forward under direction of George A. Day. Mr. Day came to Brown Corp. from a consulting laboratory in Toronto 20 years ago. He left the position of chief chemist at La Tuque to take charge of pulp manufacturing in Berlin a few years before his appointment as director of research. The present staff comprises some 25 graduate members and over 50 trained assistants.

Because of the diverse field in which Brown Company works, the Research and Development Department is divided into five sections and the larger Pulp and Paper Sections are further broken up into "task forces" for more effective attack upon many projects. As would be expected, the largest section of the department is that devoted to Pulp Research. The wood cooking, pulp bleaching, and dissolving pulp laboratories are equipped not only to duplicate any known process in those fields but also to experiment with improved and radically new processes.

The Paper Research Section is proud of its experimental paper machine, one of a few privately-owned experimental machines. This machine is no toy but trims a good 40 inches of any paper from tissue to board. Stock is prepared in full size beaters and jordans.

The other sections, Tubular (conduit, sewer pipe and mine pipe), Onco (synthetic leather) and Chemicals, although smaller than the Pulp and Paper Sections are, nevertheless, well equipped to solve problems arising in their fields.

In addition to these sections, the department includes the Bureau of Tests, Microscopy and Optical Section, and Photographic Section. Photographic records are kept of new equipment and progress of construction. Few details of Brown operations escape the camera eye for examination in the light of new facts and conditions as they develop. Motion pictures illustrate safe practices in the woods and stimulate cutting of wood by farmers.

While industrial research advances at time by spurts brought about by strokes of sheer individual genius, its progress is generally steady and to a great extent predictable. This progress is favored by an atmosphere of subjective stability and just for the reason that the mental environment of research is one of almost constant struggle and change. Since its inception, Brown's Research Department has had the backing of management in good times and bad. The long-term investment has resulted in an accumulation of experience and recorded results. Of course, not all of the technical advances made by the company have come directly from the Research and Development Department. Engineering, manufacturing, and woods have made contributions.

New Developments

During and since the war, Brown has made discoveries which it has not yet unveiled to the public. But it is revealing no secret to say that the company, as well as many a technician, is fascinated by the possibilities of sulfite and sulfate operation in close promiximity to an ample supply of hardwood available for either or both processes. There are at least two other companies coming into operation with adjacent sulfate and sulfite mills, but they do not employ both hardwood and softwood. Experiments with various liquors and with blends of pulp loom large in the plans of Brown.

Brown has not stopped with research and equipment engineering. It has as an integral part of its program, leading toward vast strengthening of the company's basic competitive position, a system of what in

industry is beginning to be called "human engineering." Brown is reconstituting not only its inter-company relations, but likewise its neighborly relations along the valley of the Androscoggin. In charge of this is Dr. Arnold Hanson, formerly professor of industrial extension at the University of New Hampshire. Under the broad banner of company relations come health and medical service, safety engineering, training, employment, administration of salaried employes, industrial relations, public relations and all personal problems.

This human engineering program is integrated throughout the company, including not only the mills but the woods end and the office personnel, and between Brown Company in Berlin and Brown Corp. in Canada.

Brown has been the only big industry in northern New Hampshire for many years and the company is mindful of the growing community responsibility in this situation. Berlin, Gorham, Milan and other towns in the valley are Brown's neighbors in a closely- knit neighborhood. Brown executives take the company's new story to the people of the communities. They take it by word of mouth, at church club meetings, and commercial club gatherings—men of the community discussing a matter of common interest. Each week in the Berlin newspaper, Brown takes a full page called "The Brown Company News." This is not a page to "sell" the Brown Company but is a news service for Brown people about Brown people.

Because of the number of towns interested, and equally interested isolated farms and houses, it is no exaggeration to say that literally tens of thousands of New Englanders are affected by the new plans of the company.

New Construction

It was in January of this year that the president of Brown formally announced rehabilitation programs at Berlin as well as major improvements at La Tuque. The former includes erection of a modern sulfate pulp mill integrated with the Cascade paper mill, improvements to the Burgess sulfite mill, and installation of a high speed Rice Barton paper machine in the Cascade mill for the production of towels. Major improvements at La Tuque, already completed, include installation of a second Minton dryer with a capacity of 250 tons per day, the erection of a new storehouse, and an addition to the central repair shop. Likewise underway is a program for the expansion of the present bleaching capacity, which will result in increased capacity of Brown's internationally known Bleached Kraft Cellate and other specialties and high alpha pulps. These improvements, like those of Berlin, are by way of handling toward reduced manufacturing costs, higher quality, and enhanced earning power.

Eyed most closely by the industry will be the new 60,000-ton sulfate mill, which will open the way to increased use of hardwood pulps to supplement present use of softwoods. Brown has made available a whole new forest resource in the birch, beech, maple, and other hardwood species of New England. The most important facet of the program is that its base is as broad as the three-state timber producing areas which are tributary to Brown operations and there is complete relationship between the present and future supply of hardwood and softwood pulp and the modernization program of the mills.

Present investments, nevertheless, are what one Brown executive calls the result of "accumulated necessity." No effort is being made at this time to modernize completely all existing facilities at one swoop. But there is definitely in the minds of Brown management something known informally at Berlin as "Plan B." This is a whole series of projected improvements, the component parts of which contribute to a well-rounded out modernization program to be achieved within the next five to ten years. "Plan B" goes further toward integration, and it includes the possibility of grades of paper not now manufactured by Brown. This secondary plan is fluid and is made more so by the fact that current improvements—whose key points are the sulfate mill (utilizing both hardwood and softwood pulps), the rehabilitated sulfite plant, and the modernized towel mill —take into full consideration possible developments in the industry within the next two decades at least.

(Another article on the Brown Company will appear in an early issue.)

Chronology of Brown Company Technical Pioneering

As prepared by Philip S. Glasson, Technical Librarian, Brown Co.

YEAR

1902—Continuous process for bleaching pulp. Older batch process was more expensive and more difficult to control.

1903—Acheson graphite electrodes were installed to replace platinum electrodes previously used in electrolytic production of chlorine and caustic. Brown Company was one of first users of these graphite electrodes.

1903—Much early development work on liquid chlorine cells was done at Electrochemical Plant.

1906—Continuous high-density bleaching, probably first in world. High-density process is more economical in respect to heat, chemicals and equipment.

1909—Refrigeration system for cooling sulfite acid to allow production of "high free SO_2" in the acid.

1910—Kraft paper produced. Very little kraft paper was made in U. S. at this time.

1910—Use of "high free SO_2" sulfite acid in combination with necessary recovery system for digester relief. A high-free" cooking acid produces higher quality pulps in shorter times of cooking.

1911—Blowpit recovery system for recovering sulfur dioxide from digester blow.

1913—Kraft black-liquor recovery process, employing burning after atomization by air under pressure. Required temperature was maintained by burning producer gas or oil. Older method employing crude evaporators, incinerators and hand firing of resulting black ash gave low efficiency and non-uniform pulp quality.

1915—Turpentine recovered during kraft pulping and refined.

1915—Kraft paper for gumming.

1916—Mechanical washers for washing kraft raw stock in place of diffusers then in common use. These washers allowed recovery of more concentrated black liquor which required less heat for evaporation.

1916—Recovery and purification of cymene from sulfite pulping.

1917—Application of Cottrell electrostatic precipitator to collect chemicals from flue dust of kraft recocery process. Said to be first in the pulp industry and much development work was necessary.

1918—Kraft paper suitable for twisting or "spinning" into twine for onion bags. Burlap previously used would leave fibers on the wet onions.

1919—Powdered limestone for making sulfite acid. Give accurate control of combined SO_2 by use of metered quantity of limestone.

1919—Burning of concentrated kraft black liquor, atomized by its own steam pressure, in a spray-type furnace emliminated need for other fuel and made large quantites of heat available.

1920—Waxed kraft paper produced.

1920—Spiral brick filling used in sulfur dioxide absorption tower. This installation may have been first use of specially-designed packing in the absorption system of sulfite acid system.

1921—Kraft paper for cement bags. May have been the first cement bag paper from wood pulp. Previously wooden

(Continued on page 56)

FIRST STAINLESS LINED ALL-STEEL DIGESTER

Kraft and Sulfite Mills Interested

When two sets of block and tackle hoisted a new No. 8 digester into place at the Port Angeles, Wash., mill of Rayonier Incorporated, recently, it was an event that may be fraught with considerable significance for the future of the sulfite pulp industry.

This was no ordinary digester installation. The chemical wood chip cooking digester is 15 feet in diameter and 56 feet, 4 inches in height, and is the first commercial alloy-lined sulfite digester of its kind in the entire world. It is of all steel welded construction with an interior lining of modified Type No. 316 stainless steel (American Iron & Steel Institute classification) which is electrically — and very closely—spot welded on sections of mild steel before being formed into circular shapes. The stainless steel has lower carbon content than normal Type No. 316. Reports are that one other, but less advanced, type of steel digester had been developed in Germany before the war for sulfite pulping.

Only time will tell the full story of what this Port Angeles installation will mean to the industry in general.

The new vessel costs more than a conventional brick lined digester, Rayonier engineers said, but it is expected that the additional cost will be more than offset by reduction in lost time and expense in making brick lining repairs.

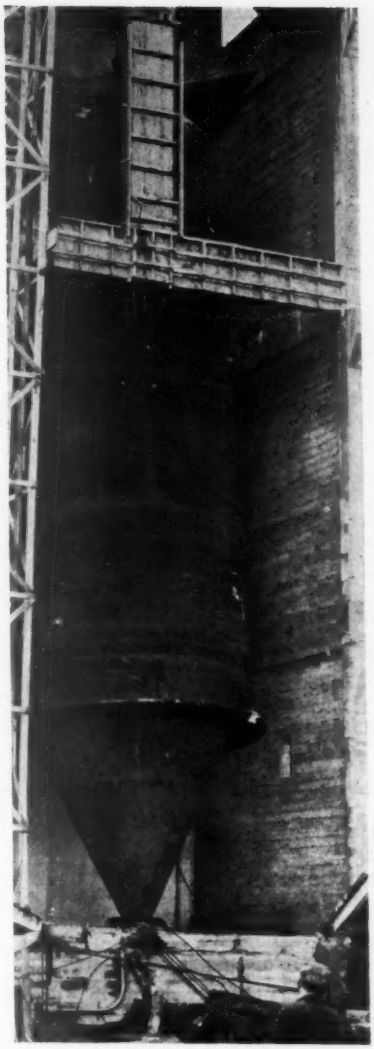
This digester installation, strictly speaking, is still an experiment and will be closely watched by both the sulfite and kraft industry. The use of new alloy stainless steels in the pulp and paper industry is still in its infancy, according to even its most enthusiastic advocates, and certainly corrosion in the sulfite cooking system is a mighty tricky thing, as testified in the report on a Pacific Coast TAPPI meeting published in our Jan. 1947 issue.

The kraft industry, as is well known, has used steel digesters for a long time, but these are made of ordinary heavy thick steel. Kraft digesters are much smaller at present than those used in sulfite cooking because cooking cycles are shorter and no attempt has been made to line them because the corrosive action is not as serious as in sulfite pulping and it has been more economical to buy a whole new digester when one wears out.

Kraft Industry's Problem

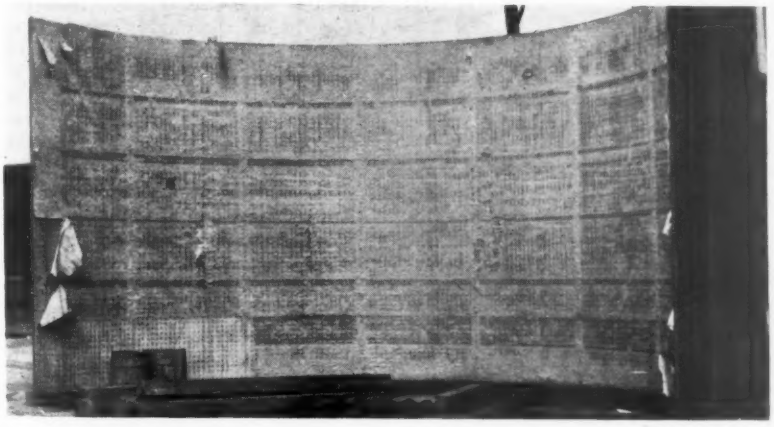
The A. O. Smith Corp. of Milwaukee, Wis., has pioneered in developing this new alloy-lined digester, building the one for the Port Angeles mill and being engaged in the fabricating of a number of similar spot-welded, alloy-lined digesters for the kraft industry. In recent years the corrosion problem in the sulfate industry has indicated an alarming increase in intensity and even that industry is now searching for equipment which will give longer life and freedom from expensive shutdowns and replacements.

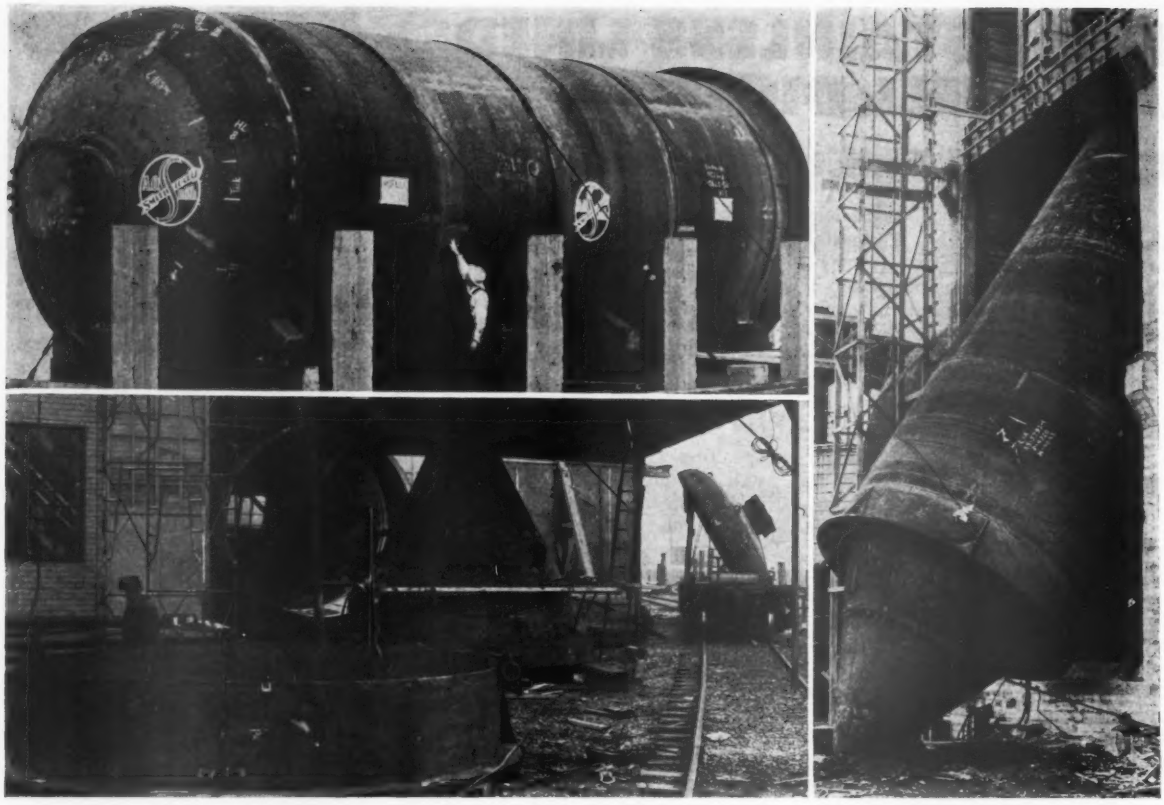
A. O. Smith executives are willing to admit that they are "learning" along with the engineers in the pulp and paper industry, but more than five years of intensive and meticulous testing and experimentation preceded the installation at Port Angeles. This Milwaukee engineering and manufacturing firm has a respected reputation already well established for stainless steel vessles in the oil and chemical industries. A few years ago the company in-



ALMOST IN PLACE—
Here's first spot-welded, stainless steel-lined, all-steel digester just a few feet below its final position as new No. 8 digester at Rayonier Incorporated, Port Angeles, Wash. Note one beam is out, about one-third way up, leaving just enough room to get digester in. Owens Brothers, Port Angeles contractors, used two sets of block and tackle for safety. Compare size of digester (56 ft. 4 in. high) with man standing closest to it—not man near camera.

INTERIOR OF A SECTION of the new digester for Rayonier Incorporated, before assembly. This shows the numerous spot welds. The stainless steel lining is very closely and electrically spot-welded on mild steel by A. O. Smith process.





Upper left: New A. O. Smith 68½-ton stainless steel digester on barge, as it left Hydraulic Supply Mfg. Co., in Seattle, where it was assembled, ready for 100-mile voyage to Port Angeles mill. Note comparative size of man.

Lower left: A. O. Smith Corp. shipped digester in 12 sections to Hydraulic Supply Mfg. Co. From left to right in this picture are skirt that supports digester; a part of the shell (back in building entrance); bottom cone (welded from three parts in Seattle plant) and digester head (on railroad car as it arrived from Milwaukee).

On right: Digester is being hoisted into place. Note bottom cone digging into ground.

stalled an acid storage tank, with a similar special type of alloy spot-welded lining, in one of the important sulfite pulp mills of Wisconsin.

Of course, acid storage systems do not experience the tricky and severe corrosion problems inherent in chemical pulping. In pulp mills, chemical resistance, not strength, is needed.

It is expected by Rayonier engineers that repairs, if necessary, can be made in the field by arc welding to small areas showing preferential attack by reason of some unprecedented condition, and thereby keep the digester in operation for many years.

The new digester at the Rayonier mill weighs 68½ tons and has a capacity of 7,842 cubic feet. Its inside diameter is 15 feet as compared with 13 feet, 9 inches for the brick-lined ones which are lined up with it in the digester house. The lining of the new digester is only 7/64 of an inch thick and the mild steel shell, or backing, varies from only 1-1/6 inches to 1¼ inches in thickness. Brick linings, by comparison, are generally 7½ inches thick or even thicker, and most digester construction is riveted (not welded), requiring heavier plates.

Although the outside diameter is the same as that of other Port Angeles digesters, the greater inside diameter of the all-welded digester effects an increase of about 20% in capacity. Rayonier engineers also said they expect to get better and cleaner blowing because of the smooth surface of the alloy lining.

The extra cost of the new digester over the others in the Rayonier line-up of cookers may be reckoned at about 30%, taking into account the 20% increase in volume.

Hydraulic Supply's Job

The digester was shipped in as large sections as practicable from the Milwaukee plant of the A. O. Smith Corp. to the Hydraulic Supply Manufacturing Co. of Seattle, Wash. It came in 12 pieces. The dome came in one piece and the bottom cone was in three sections. There were eight side sections. Hydraulic Supply Manufacturing Co. had the task of assembling the pieces by arc welding to exacting A. O. Smith specifications and inspection, which took several weeks to accomplish. Hydraulic Supply Manufacturing Co. assembled the sections on rolls which were already mounted on skids in their shop, gradually sliding the assembly out the door as each section was added. The complete unit was not continuous welded until all sections were joined. The exterior mild steel was first completely welded from the outside—each successive pass of weld being thoroughly peened to eliminate any possibility of locked in stresses or distortion due to shrinkage, according to Hydraulic Supply engineers. The inside groove was then chipped out down to the pure metal of the outside weld. After the magnafluxing of the weld, three distinct layers of stainless weld were applied over the mild steel in seven to eight passes. The purpose being to eliminate any danger of pickup of the mild steel from below.

The completed 68½-ton unit was then lifted onto a Navy barge with a U. S. Army crane owned by the Foss Tug & Barge Co. The crane

had formerly been used at the Army's big embarkation depot in Seattle, an important shipping point for troops going to Japan and Alaska.

There followed a 100-mile voyage on the barge out through Puget Sound and into the Strait of Juan de Fuca to Port Angeles harbor. The digester was rolled onto a sled, already built on the barge, and tractors towed the sled to the digester building. With one crossbeam left out of the digester building about one-third of the way up, there was barely sufficient clearance for lifting the digester into place. Installation was carried out by Owens Brothers, contractors, of Port Angeles.

Finally in place, the digester was hydrostatically tested in mid-December at 250 lbs. pressure per square inch, a higher test than is commonly given to digesters. As expected, the test was entirely successful. This was twice the design pressure and more than twice the normal working pressure in cooking chips. Heated water was used.

The next step was to insulate the outside of the digester with 1½-inch air-cell blocks, a project which was being carried out by the Asbestos Supply Co. of Seattle.

E. R. Barrett, Northwest executive administrator for the A. O. Smith Corp., explained the great care which has gone into the new development on the part of the A. O. Smith together with the co-operation of the Rayonier technical staff. He told of extensive corrosion tests made on No. 316 Type steel behind the strainers at the mill.

This raises the question of relining of stainless steel digesters, a subject on which little or no work has been done. Considerable progress has been made in other industries and the problem is by no means a hopeless one for the sulfite industry.

It is probable that the engineers on Rayonier's own staff—those at the Port Angeles mill under Assistant Resident Manager Meder Johnson and the Central Engineering Division in Olympia, Wash. —may be the ones to develop a relining technique, with the co-operation of the A. O. Smith Corp., and the Hydraulic Supply Manufacturing Co. At any rate, just to be ahead of the game, they are not going to leave any stones unturned in studying the possibilities of relining.

New Improved Rayon Products Described by Rayonier Executive

The new improved products of rayon industry, which had been anticipated after the war, are being delayed for virtually same reasons that are holding up many other things, Madelyn Kurth, education director of Rayonier Incorporated, told PULP & PAPER INDUSTRY in an interview. These are material shortages, labor conditions and continuing peak demand for standard rayon and particularly for rayon tire cord.

But some of the new rayons that will be giving silk a "battle" in its own favored fields will be appearing in some quantity by the spring of 1947, says Miss Kurth. Dyeing, increased strength characteristics, resistance to abrasion and wrinkling are ways rayon fabrics will be improved.

"A number of famous brand-name silk fabricators are turning their attention from silk to rayons," she said. "A new chapter in quality rayon fabric-making is anticipated. Special equipment has been designed to give rayon yarns additional twist.

"By treating rayon yarns with silk techniques it is claimed that fabrics can be given many of the properties which have been associated exclusively with silk, such as the hand, feel and appearance, with less crushability and reduced luster. Some weaves, such as satins, taffetas and what are usually referred to as 'tie silks' are already being produced.

"It is also anticipated that a brighter and a wider range of colors will be introduced by the use of stronger yarns when they are available. These are expected to make it practical to use vat and other fast colors on a much greater volume of rayon fabrics than in the past. Stronger yarns will also make it possible to produce lighter-weight spun rayon fabrics as the additional strength will permit the use of finer yarns."

A Rayon "Revolution"

Prospects for the British rayon staple spinning industry after the war are as bright as those for any trade in England, according to T. H. Mather, managing director of India Mills, Darwen. In a recent address to British textile men he said that already yarns, cloths and finishes existed which would revolutionize the trade when it was possible to produce and market them commercially after the war.

"Lead" Men Take Responsibility For Safety in Port Angeles Mill

One of the first mills in its territory to bring "lead" men as well as foremen into the administration of safety measures in the mill, Fibreboard Products. Inc., division of Port Angeles, Wash. held a "kickoff" dinner at the Salmon Club in that city recently to launch this new program. It was also a celebration of "80 days with no accidents" at that mill.

As a result of the expressed desire of the unions to take a more active part in safety work, they brought together about 50 executives, foremen and "lead" men. There are 36 in the latter category—including back tenders, machine tenders, screen tenders, etc., and these men hereafter will have responsibility for safety enforcement and inspections and accident investigations. These responsibilities had formerly been vested solely in the eight mill foremen.

Robert Bundy, general operating manager of all the Fibreboard mills, came from San Francisco for the dinner, Verne Basom, mill resident manager was the chairman, and R. A. Lawrence, personnel and safety supervisor, was the organizer. Special guest and speaker was Fred Pontin, veteran first aid instructor in many of the Pacific Coast mills.

Only Few Railway Cars Built To Transport Giant Chippers

Only a few railroad cars in the world are are capable of carrying the new giant whole log chippers which are Sumner Iron Works, Everett, Wash., has manufactured and is continuing to make for several Pacific Northwest mills. It is at these chippers, actually, where the 10 to 20% saving in wood is effected as a result of the new whole log barking and chipping techniques.

A well-type railroad car, with a flat bed in center and a well which allows the huge chipper to stand up, is used. Clearance of the well above the track is only six inches.

A 175-inch 68,000-lb. disc and 20,000-lb. arbor were delivered to the Everett plant this month by Bethlehem Steel Corp., to be processed there and delivered to a Coast mill.

The same railroad car carried a big 175-inch completed chipper to Vancouver, B. C., whence Canadian Sumner Iron Works will deliver it via a railway scow to British Columbia Pulp & Paper Co.'s Woodfibre mill on Howe Sound. It's quite a tricky delivery job by land and by sea.

Son for Hobart Race

New Years Day brought another income tax exemption to Hobart Race, machine tender at Puget Sound Pulp & Timber Co. A second son, David, was born at noon that day to Mr. and Mrs. Race. The infant's uncle is Assistant Superintendent Fred Gilmore.

Chemical Impregnation of Paper As Aid to Packing Citrus Fruits

It's Up To You!

In Florida, Texas, California and other citrus fruit States, the paper industry has serious problems of decay and mold and in laboratories of some of the big companies in California, Washington, Michigan, Pennsylvania, in particular, a great deal of study and research has been carried on. This article is an outstanding contribution in this field.

These companies are well aware that in the packaging field, generally speaking, the paper companies themselves have got to carry on the research into use of their end products, and not leave it to the consuming companies to do. Otherwise, the paper industry will not get its potential share of the packaging market.

By Dr. Robert A. Baum
Tech. Dir., Fernstrom Paper Mills

The growth of the use of paper for wrapping all types of perishable fruit has been very steady over past and recent years. In the main, such a growth of tonnage has been occasioned by those properties of paper which make it so valuable a packaging agent in other fields, ease of use, ability to wrap, form, and fold, low cost, ability to carry advertising matter, ability to dye, and ready availability.

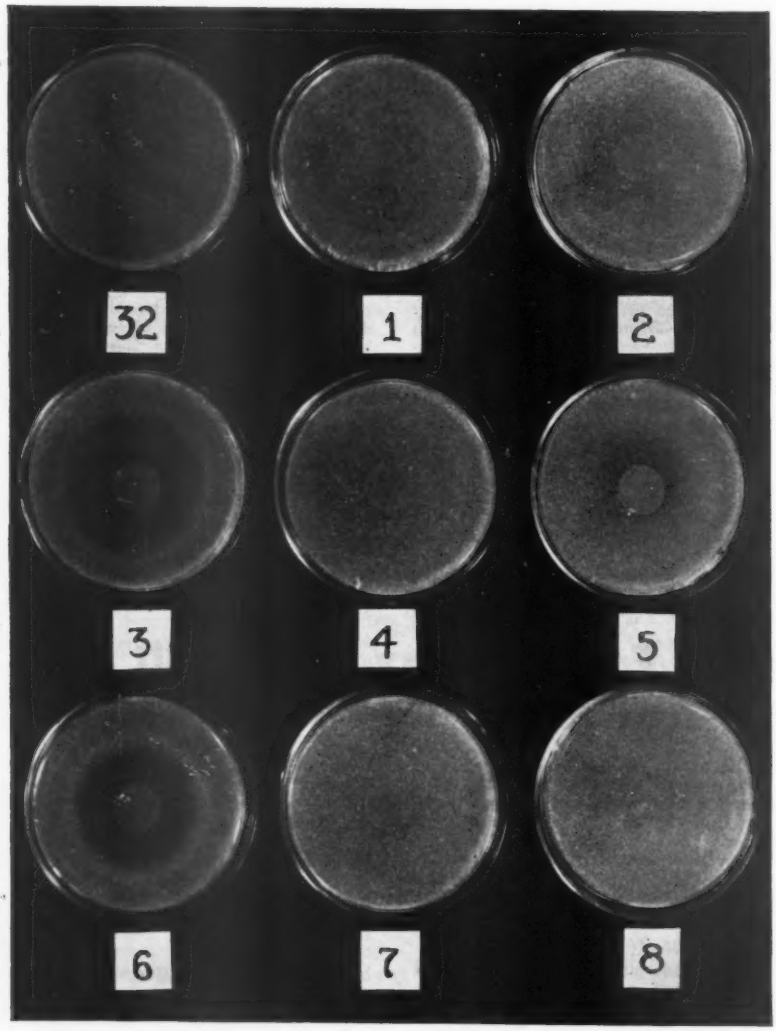
With recent advances in the shipment of perishable fruits to all corners of the world, a new possibility for increased value of paper as a packaging agent is making itself known.

This is primarily the ability of paper to be altered so that instead of representing a standard wrapping material such as a given strength and weight sheet available for a multitude of wrapping purposes, it will represent a paper specially designed to carry on a specific function in aiding a certain type of fruit or foodstuff to reach the consumer in a condition more nearly approximating the original state, flavor, and food value.

Inasmuch as various types of perishable fruit to be packaged present different problems, characteristics peculiar to each species must be considered to adequately design a paper sheet to contain them.

In the case of oranges, both Valencias and Navels, the fruit after harvesting carries on active respiration, taking in oxygen and giving off carbon dioxide, water, and respiratory waste products. Here is the first opportunity for correct design of paper to remedy a shipping problem. As the fruit gives off moisture, it loses weight, becomes shrivelled, and eventually the cells begin to die. When sufficient cells expire off flavor, loss of vitamins and eventually unsatisfactory conditions for human consumption prevail. By limiting oxygen intake of the fruit, metabolic rate is decresed, moisture outgo decreased, and an actual state of "suspended animation" is induced.

Paper can easily be made to do this by decreasing the porosity or gaseous permeability of the sheet either by tighter formation or by coating a less tightly formed sheet. In the case of citrus fruits, it was



IMPREGNATED PAPER CONTROL of decay on inoculated agar is illustrated by these photos. 32 indicates control. Effectiveness of various chemicals on citrus molds is tested by placing chemical-impregnated disc of paper on surface of agar which is inoculated with spores to be controlled. The effectiveness of control is measured by diameter of sterile zone.

found more economical to decrease porosity by addition of mineral oil and wax after the dryers than by other means.

There is a limit to which a citrus fruit can have its oxygen intake stifled, as beyond this point, insufficient oxygen for cell metabolism causes anaerobic flavors due to a differing reaction chain than that found in a normally ripening fruit.

In order to determine such a point in the case of oranges, various porosities of paper were used to wrap fruit for a given period. Taste tests then determined that point at which anaerobic flavor was developed.

Discussion of Graphs I-III

Graph I shows fruit weight loss when wrapped in paper of varying porosities. Graph II shows moisture permeability of papers of varying porosities, thus indicating that fruit weights follow the theoretical values.

Graps III shows a flavor test on the juice of fruit so wrapped in order to determine a point where further decrease in porosity endangers the proper reaction of the fruit resulting in anearobic flavor.

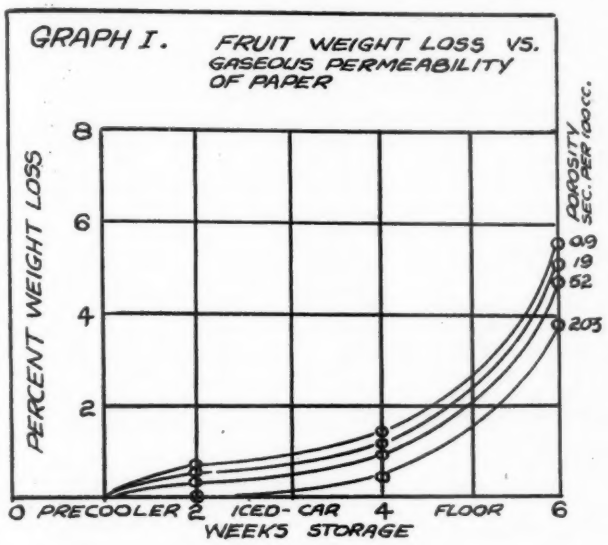
By utilizing such information to alter the porosity of the paper within economical limits, citrus fruit can be caused to lose very little weight en route to the consumer.

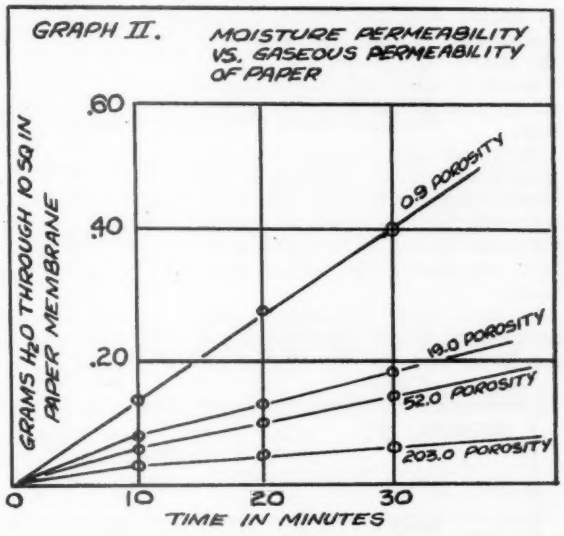
Decay in shipments of perishable fruits is oftentimes one of the most serious handicaps to long range marketing. In the case of oranges certain types of decay are more prevalent than others, namely the Penicillium Digitatum and Italicum. Decay, of course, renders the infected fruit inedible, allows contact from infected to sound fruit, and also due to the organism causing decay, contaminates the flavor of all fruit in the package as they take in such gaseous waste products with the oxygen requirement.

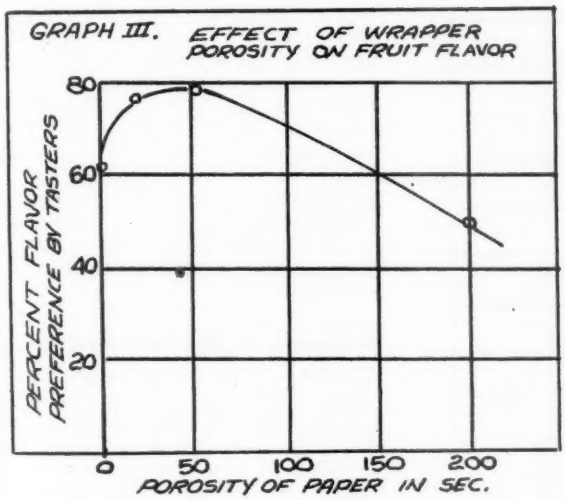
A study of decaying fruit will indicate the source of infection. In the case of citrus fruit, minute skin punctures that become inoculated with spores especially prevalent in citrus growing areas, are responsible for most preliminary decay.

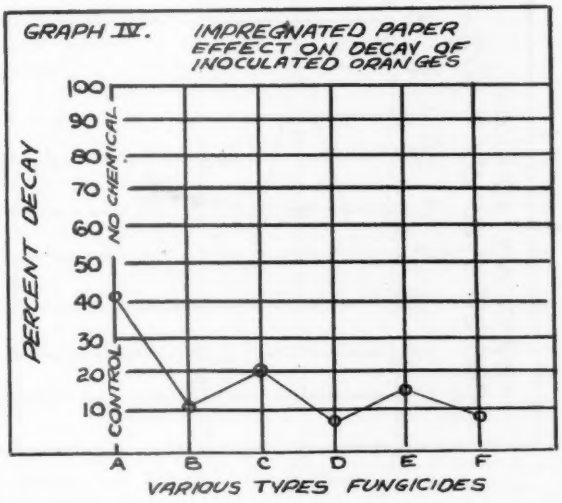
To effectively combat such a type of decay a vapor phase chemical is most advantageous as it can be incorporated in the paper at time of manufacture in the form of crystals or as a liquid and then when used to wrap a fruit will give off vapors penetrating all such injuries, thus preventing sporulation of the infecting mold and the opportunity for subsequent decay.

Paper once again is the most advantageous carrier for such a chemical as many compounds of fungicidal nature will burn the fruit skin if applied to the fruit directly as in a bath, etc. In the case of pa-









per, a controlled and constant amount can be added during manufacture and only the vapor dispersed in the air space between the fruit surface and the inner side of the wrapper after packaging.

Such chemicals must be carefully chosen as an incorrect choice may burn the tender fruit skin, be taken into the fruit and contaminate the flavor, may be toxic if the rind is utilized, or be unacceptable from the customers' viewpoint due to odor.

Once these defects are eliminated the chemical must of course be specific for the control of the particular infection, and of such a nature as to be compatible with the paper sheet which is to be its vehicle.

Discussion of Photos

The photographs on page 30 show the effectiveness of some various chemicals on citrus molds tested by placing a small disc of paper impregnated with the chemical upon the surface of agar inoculated with the spores to be controlled. Effectiveness of decay control is measured by the diameter of the sterile zone.

As is common in most development work laboratory results do not always function in the field; consequently the true evaluation of the fungicidal power of a chemical is best represented by actual fruit trials.

In such trials, statistically sufficient fruit fresh from harvesting should be utilized. The California

The author, DR. BAUM, who is Technical Director of Fernstrom Paper Mills, Pomona, Calif., probably the only paper mill in the world which is situated in the middle of an orange grove.

Fruit Growers Exchange has found that preliminary tests should be run on not less than 400 fruit, routine tests on 2000 fruit, and semi-commercial tests on not less than 70,000 fruit before results may be determined of experimental significance. This of course involves considerable research facilities, but eliminates incorrect results that may arise from individual variation in the same species of fruit.

Graph IV shows experimental results of various decay controlling chemicals upon citrus fruit.

In most instances it has been found that to artificially inoculate each fruit and then apply the decay controlling wrapper defines results. A higher percentages of fruit would normally decay under such conditions and an accurate measure of chemical efficiency may be obtained by comparison of these fruits which did not decay when wrapped in chemically treated paper with fruit wrapped or handled in a standard manner.

In general the shipment of fruit involves three points of possible improvement; (1) Weight loss, shrivelling, loss of food value (2) decay, and (3) loss of flavor.

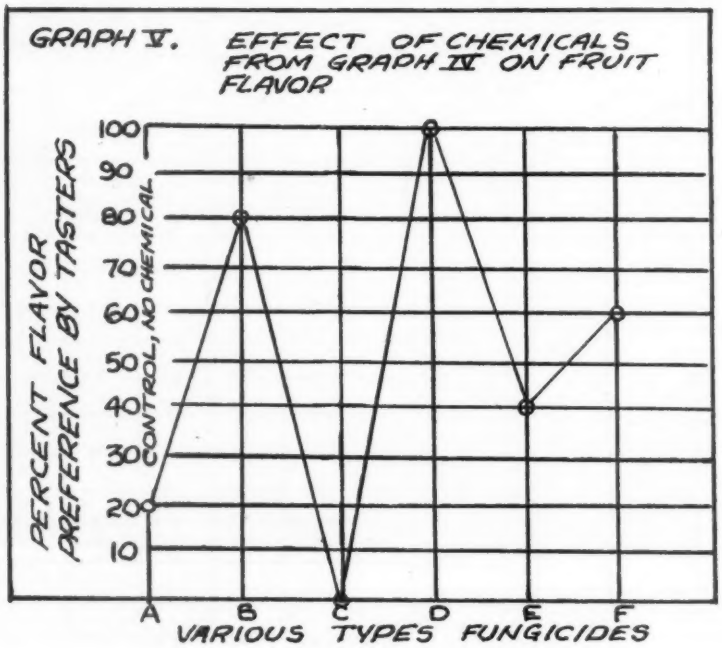
Paper can be so treated as to control all these points. The first two, weight loss and decay, have already been discussed. However, flavor is the final point to be considered.

If the fruit has been prevented from excessive shrinkage, decay kept from the package, and the decay controlling chemical is carefully chosen to avoid chemical contamination, flavor will in general be superior to fruit which is not protected.

There are, however, certain points that may further be incorporated in the paper sheet to increase further protection. Certain respiratory products of the fruit itself may if reabsorbed act in an auto-catalytic manner to the fruit and cause flavor breakdown.

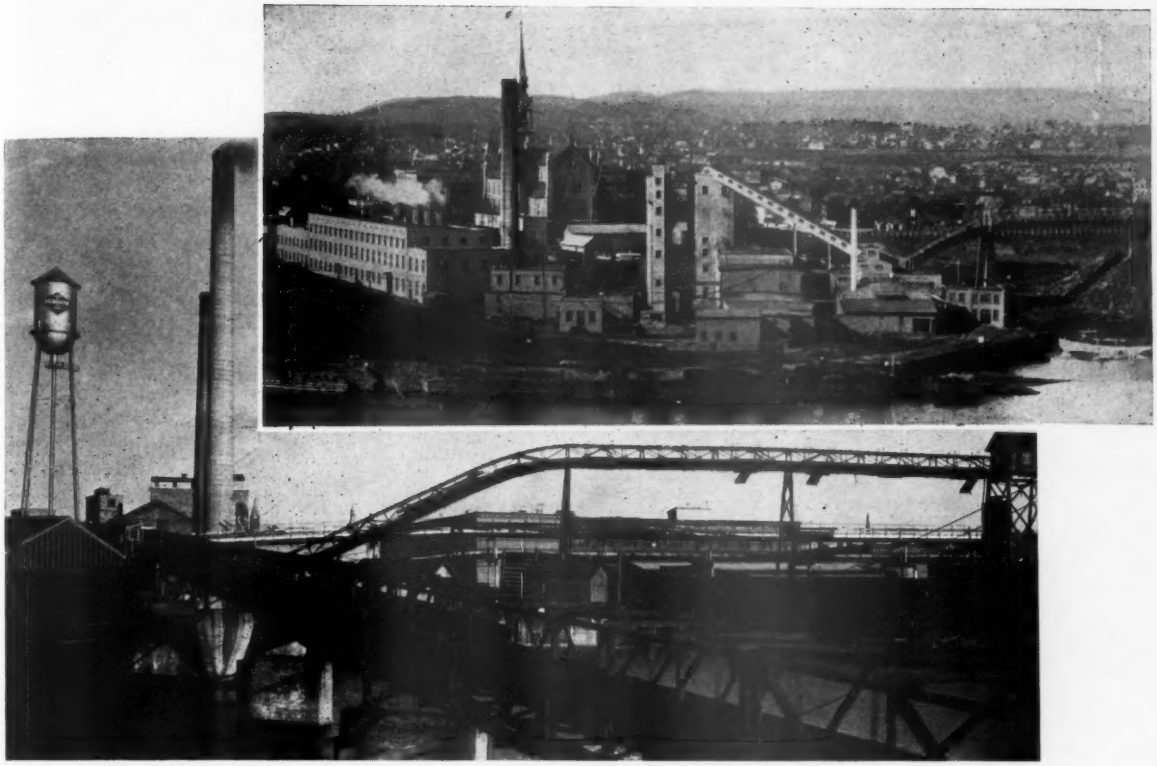
A chemical designed to either combine with or adsorb such undesirable respiratory gases, often active at concentrations of less than one part per million, will further protect fruit flavor. Some typical fruit falvor reactions to various chemical combinations incorporated in paper used for wrapping are shown in Graph V.

From this it can be seen that the usefulness of paper as a packaging material for fruits, vegetables, or almost any food item to be contained is by no means at its limit but bears great opportunity for increased function. The consumer of the future may expect by means of new and adequately designed papers for packaging to purchase perishable fruits geographically far from their origin and enjoy the same eye appeal, flavor, and food value as was present when the crop was harvested, all through adaptations of the most versatile of packaging materials, paper.



Diagrams of Swenson Systems

The Swenson Evaporator Co., a division of Whiting Corp., Harvey, Ill., will send on request any of three new, 6-color flow diagrams illustrating various systems of economical pulp washing. These 16 x 11 prints show a 3-drum 5-stage, 2-drum 4-stage washing system.



THESE TWO MILLS ACROSS OTTAWA RIVER FROM EACH OTHER HAVE BEEN AMALGAMATED.

Upper view: The E. B. Eddy Co. mill with the town of Hull, Que., and the Gatineau Hills in the background. Building at left houses 234-inch newsprint machine. In sulfite mill are five digesters, modern filtration plant, new bleach plant, new B & W boiler.

Lower view: The J. R. Booth mill in Ottawa within sight of Canada's Parliament Buildings, now the Booth mill of E. B. Eddy Co. It has three Fourdriniers, a Shartle-Dilts refining system and new Foster-Wheeler unit.

Eddy and Booth Mills Amalgamated; New Equipment at Both Canadian Plants

The E. B. Eddy Co. at Hull, Que., and J. R. Booth, Ltd., at Ottawa, Ont., have been amalgamated bringing under single control and management two of the oldest established units in the Canadian pulp and paper industry and lying the foundation for an organization with probably the most diversified production on the continent.

The two mills, now agressively operating under the name of the E. B. Eddy Co., are separated from each other by only a short walk across the Ottawa River bridge which links the two provinces as well as the two plants.

The mills have a combined capacity of approximately 138,000 tons per year of finished products, including bond and bristol, tissue, waxing, hanging, writing and book papers and paper bags, newsprint and paperboard.

Last year, total output included 41,408 tons of specialty papers, 24,-081 tons of board, 8,765 tons of toilet, serviettes and towelling, and 7,072 tons of hanging paper.

The company's newsprint operations are now at their peak and annual production is estimated at 39,000 tons. For use in the manufacture of these finished products the combined Hull and Ottawa mills can produce, at capacity, 66,000 tons per annum of groundwood pulp, 54,000 tons of unbleached sulfite pulp and 24,000 tons of bleached sulfite pulp.

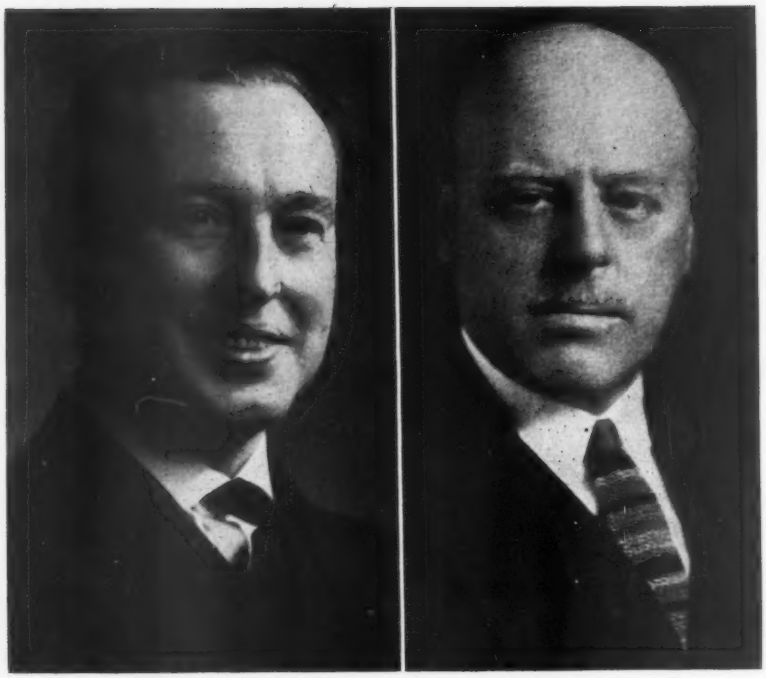
The company's converting plants have a capacity of 450,000 cases per year of toilet paper, serviettes and towels combined, and 150,000,000 grocery bags.

The Eddy-Booth consolidation was the culmination of reorganization carried out following acquisition of the two companies by Garfield Weston, now living in Vancouver, B. C. Mr. Weston was originally prominent as a biscuit and bread manufacturer, with a huge organization in the United Kingdom as well as in Canada and the United States.

His entry into the pulp and paper business about two years ago was regarded as significant of a sharp diversification of his interests.

Last year Mr. Weston purchased control of the Sidney Roofing & Paper Co. at Victoria, B. C.

The Eddy company was controlled for many years prior to Mr. Weston's entry by Viscount Bennett, former Prime Minister of Canada. The J. R. Booth company was organized and operated for many years by John R. Booth, one of Canada's wealthiest men, who died some years ago. The two companies, with widespread timber holdings, offered an unusually favorable opportunity for merger because of their location and possibility for integrated



W. GARFIELD WESTON (left), Chairman of Board of E. B. Eddy Co., who brought about amalgamation of Booth and Eddy mills at Ottawa and Hull. G. GORDON GALE (right), President of E. B. Eddy Co., and also of Gatineau and Ottawa Valley Power Companies.

Executives of E. B. Eddy Co. (left to right): W. S. KIDD, Vice President and General Manager for amalgamated operations; JAMES W. PATERSON, Manager, Woodlands Dept., and R. F. CALDWELL, Sec'y.-Treasurer.

manufacture. The two companies have now joined forces to form a larger, stronger and more efficient enterprise.

Chief executive officers of the Eddy Co. are: W. Garfield Weston, chairman of the board; G. Gordon Gale, president; W. S. Kidd, vice-president and general manager; John F. Taylor, vice-president; R. F. Caldwell, secretary - treasurer; Miss E. K. Milke, assistant secretary; H. E. Reid, chief accountant.

Operating personnel includes: R. G. Johnstone, manager of manufacturing; George C. Winlow, director of sales; N. B. A. Fair, general sales manager; J. W. Paterson, woods manager; D. O. McLennan, personnel manager; H. D. Wright, purchasing agent; George Stephenson, mechanical superintendent; Gordon Franklin, technical director; A. N. Ball, chief engineer; Dr. Wilfred Gallay, research consultant, and C. E. Hawkins, traffic manager.

Upon the acquisition of the timber limits, leases and licenses of J. R. Booth, Ltd., the E. B. Eddy Co.'s reserves of timber have been increased from about 1,800 square miles to over 5,800 square miles, providing an estimated potential perpetual yield of 160,000 cords per year. Timber reserves are conserved through the purchase of some 50,000 cords of wood from privately held lands. The present annual consumption is approximately 175,000 cords a year. Most of the timber resources are located on the Gatineau River and the Ottawa River watersheds which permits use of those rivers for driving logs to the mills.

As a part of the long-term town planning program of Ottawa, Canada's capital city, provision is made for elimination of most of the industrial buildings from the city area, which may mean that at least a part of the company's operations may be transferred to another site recently required along the Ottawa river front to the east of the present mills. It is not expected that such a move will be made in the immediate future, however.

More than 87% of the Eddy newsprint is sold under long-term contract and other products are distributed through the company's sales branches in most of the larger Canadian cities. Western Canada distribution is handled through the Tees and Persse organization, which has represented the company for many years.

Equipment Partly New

The Ottawa Booth mill has three Fourdrinier machines in operation—one of 120-inch trim and two of 142 inches, equipped with Shartle-Dilts Hydrafiners and Hydrapulpers (see p. 46) through Alexander Fleck, Ltd. There is a 6-cyl. board machine with 112-inch trim. The old groundwood mill is equipped with three pocket 100-ton grinders.

Two digesters handle 60 tons of sulfite pulp stock daily. Barking is done by a new Waterous drum 12 x 45, of all welded construction. During the war a new boiler plant was set up, with two Foster Wheeler 70,000 pounds-an-hour units, using pulverized fuel and designed for 650 pounds pressure, operating at 175 pounds.

In the Hull mill, two new Waterous drums have recently been installed, replacing older Waterous units. In the groundwood department there are three pocket grind-

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(NEWS ITEM: *Paper diapers are now available at neighborhood drug stores.*)

Modern mothers are finding paper diapers more and more among the indispensables for bringing up baby. Made of high wet-strength paper, these soft filmy diapers are impregnated with a light antiseptic baby oil during manufacture. Paper diapers are especially acceptable because they are disposable. Each diaper arrives scientifically sanitary. Names of manufacturers furnished gladly on request.

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The Puseyjones Organization is now devoting itself completely to the design and construction of Paper-Making Machinery built to new high standards of speed and efficiency, and to the modernization of existing machines.

Among the new machines under construction by Puseyjones are three of the largest and fastest Fourdrinier Machines, one for white paper for bags, one for Kraft liner board, and one for Kraft paper for multi-wall bags; also one Cylinder machine of record size and speed for the manufacture of floor covering felt. Other machines are under construction for the manufacture of M. G. Kraft specialties, facial tissues, and high grade bristols.

Puseyjones Engineers will welcome the opportunity to work with you in solving production problems.

THE PUSEY AND JONES CORPORATION
Established 1848. Builders of Paper-Making Machinery
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ers with capacity of 130 tons daily; seven specialty machines, three 100-inch Pusey & Jones Fourdriniers, one 120-inch Fourdrinier, two 84-inch Harper tissue machines; one 4-cylinder Black-Clawson board machine.

Also at the lower Hull mill is a 234-inch Walmsley newsprint machine, and in the sulfite mill five digesters and a modern filtration plant which filters 6,000,000 gallons of water and screens 14,000,000 million gallons a day.

The bleach plant was installed under the direction of Raymond P. Hill, Pulp Bleaching Co., Seattle, Wash.; and it has a capacity of 75 tons, with two-stage batch system.

A new Babcock-Wilcox boiler has been installed, stoker fired and designed for 450 pounds, operating at 200 pounds pressure.

There is a complete hydro-electric plant on each side of the river, the Hull side having 15,000 h.p. and Ottawa 12,000 h.p. This power supply is supplemented by purchases from the Ontario Hydro Commission.

One of the most interesting departments is the research laboratory, incorporated for control research and one of the best equipped in Canada.

GEORGE C. WINLOW, Director of Sales, E. B. Eddy Co., one of most widely known men in his field.

AN EXPERIMENTAL COATING MACHINE drying by infra-red lights in operation in the Research Laboratory of The E. B. Eddy Co., Hull, Quebec. Arrangement of infra-red lights and the course of the coated paper is shown in the picture.

Paper mills in the coated paper field have special drying problems which many of them consider are not being satisfactorily solved using present drying methods. There has been a great deal of experimental work done in infra red drying. But, as yet, there have been no commercial installations of this method announced.

At Red Rock

A. C. "Bob" Fuller, who started his pulp and paper career 30 years ago at Camas, Wash., and who since then has worked at Ocean Falls, B. C., and in Florida, has joined Brompton Pulp & Paper Co. at Red Rock, Ont., as paper mill superintendent.

John Evans, formerly technical assistant in the technical section, Canadian Pulp and Paper Association, Montreal, has been appointed control superintendent at the Red Rock division.

Roy Foote Promoted By Powell River

Roy Foote has been promoted from assistant manager to manager of Powell River Sales Co., Ltd., Vancouver, B. C. Harold S. Foley, president of Powell River Co., is also president of the sales subsidiary, and William Barclay is vice president.

Ken Barton has been appointed assistant traffic manager under Oswald Crawford at Powell River for Powell River Co.

Talk of New Mill At Prince Rupert Revived

Port Edward Development Co. has been incorporated at Victoria, B. C., with a capitalization of $100,000 and its purpose is listed as "manufacturing all pulp and paper products."

One report from Prince Rupert, B. C., adjacent to Port Edward, is that a $15,000,000 pulp and paper mill is planned, but details concerning the project are lacking.

Directors of the new company are listed as follows: Joseph Francis Dempsey, attorney-at-law, 20 Exchange Place, New York City; Edward Creswell Mapson, 1422 Standard Building, Vancouver; James Grant Halpin, 1422 Standard Building, Vancouver; Clifford Manley Bowden, High Farms Road, Glen Head, N. Y.

Before the war F. L. Buckley of Vancouver planned to establish a pulp mill at Prince Rupert, financed by California capital. Other similar developments have been reported for central British Columbia, around Prince George, as well as on the north coast.

Pins For Employes At Pacific Mills

Veteran employees of Pacific Mills, Ltd., and its subsidiaries were honored at an annual dinner and dance in Hotel Vancouver, Vancouver, B. C., at which E. W. Campbell, personnel director, presided.

President Paul E. Cooper presented 25 year service pins to John A. Young, vice president, and James Bird, employment manager. Mr. Young was unable to attend owing to illness. Twenty-year pins were presented to Leonard Bate, Parker S. Bonner, Charles H. Forster, Carman Mills, Lorang J. Molsted, George Oliver, Gordon R. Sharpe, Joseph Vesak, Ann Woodburne.

Vets and Average Pay

A year-end survey of Powell River Co.'s activities, by President Harold S. Foley, shows that the company's program for rehabilitating service men has exceeded its objective, with 700 servicemen employed.

The record shows that average monthly pay of Powell River Co. employees has risen as follows during the past decade: 1935, $133; 1939, $147; 1941, $159; 1945, $178; 1946, 199.

Supt. at Ste. Anne

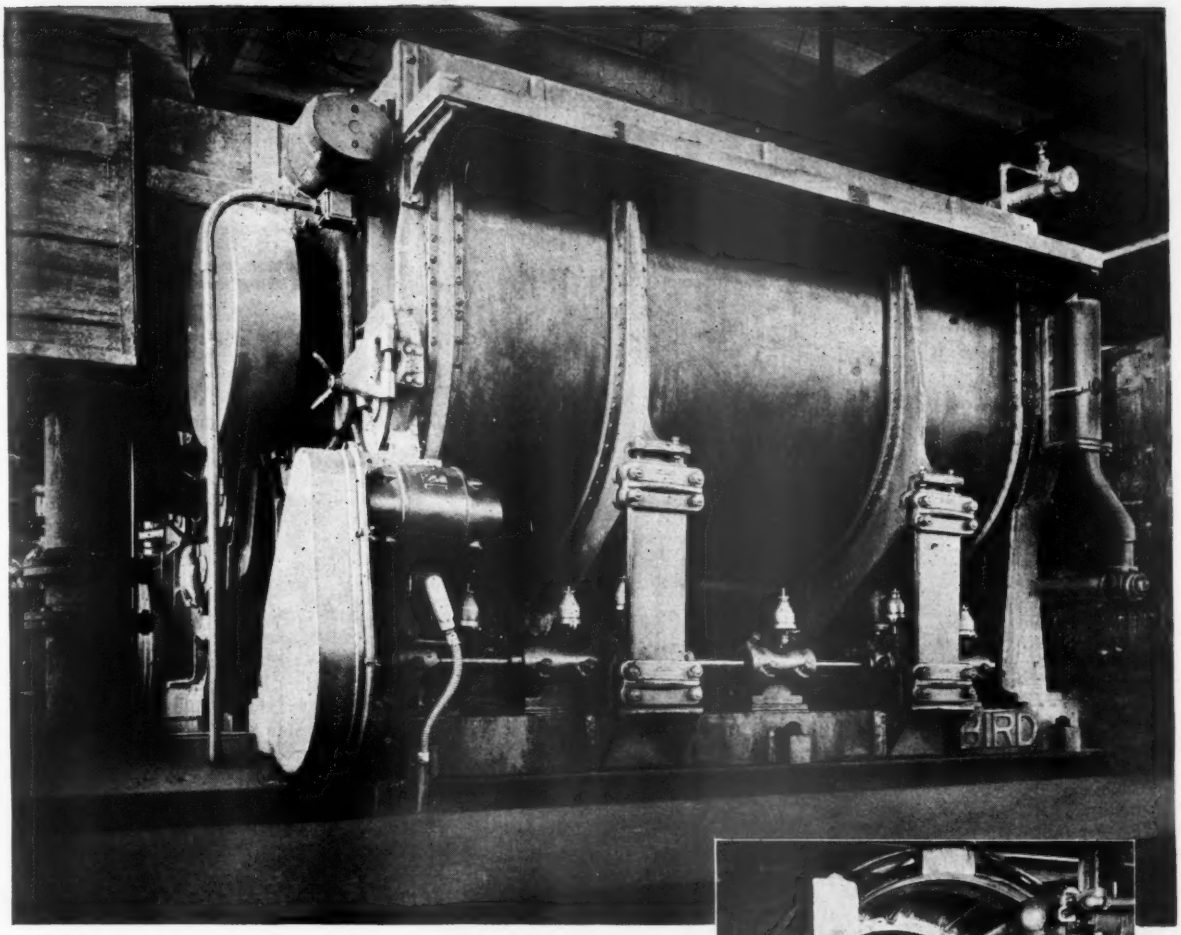
Robert Fraser, formerly paper mill superintendent at the Laurentide (Quebec) division of Consolidated Paper Corp., Quebec, has been appointed general superintendent of the Ste. Anne de Beaupre (Quebec) mill of Abitibi Power & Paper Co.

A. C. Price Made Executive Vice President

A. C. Price has been named executive vice president of Price Bros. & Co., Quebec. He continues as vice president in charge of sales. Hector Cimon has been appointed vice president in charge of labor relations.

Manages New Hotel

Harold Cooper has been named manager of the new $1,000,000 hotel at Ocean Falls, B. C., being built by Pacific Mills, Ltd.



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1. They get the dirt and shives just ahead of the paper machine, protecting the wire and improving the quality and uniformity of the sheet.

2. They comb out and individualize the fibres, assuring continuously good sheet formation at top machine speed.

3. They deliver a homogeneous mixture of stock and water free of lumps, strings and slime. Uniform weight results.

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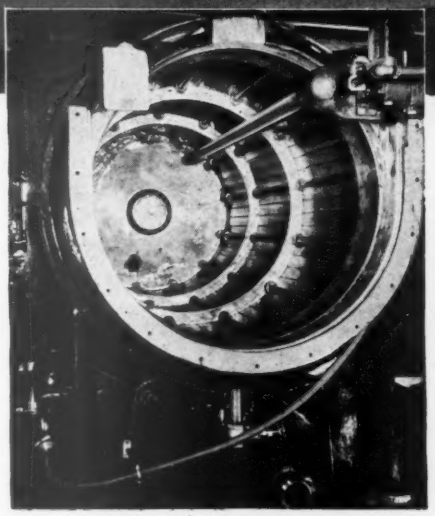
SOUTH WALPOLE MASSACHUSETTS



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It keeps the screen slots clean with the minimum of shower water — quickly pays for itself out of the savings. Runs right from the eccentric shaft of the Screen.

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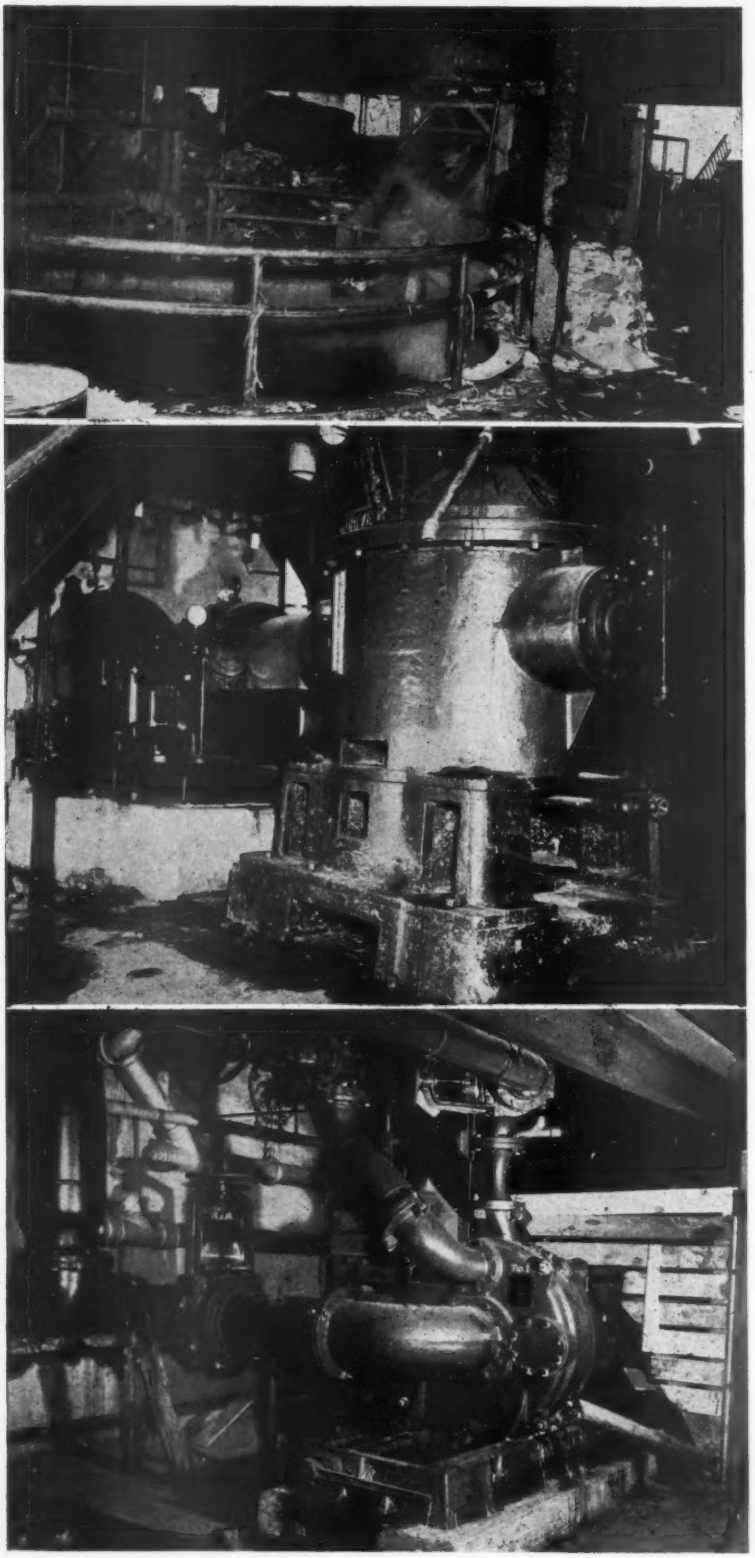
NEW IDEAS AND NEW EQUIPMENT MODERNIZE LOS ANGELES MILL



NEW EQUIPMENT AT PIONEER - FLINTKOTE MILL:

Top view: Shartle-Dilts Hydrapulper in No. 1 machine stock preparation system, larger of the two Hydrapulpers newly installed at Pioneer-Flintkote. This view shows delivery end of the news stock conveyor system, which brings news up from sub-floor storage.

Middle view: Shartle Bros. gear drive for No. 2 machine Hydrapulper. In background is Terry turbine which provides power. This equipment is located directly beneath Hydrapulper.

Lower view: Dilts Classifiners in No. 1 stock preparation system. Pulp comes to Classifiners from primary settling chamber and accepted stock passes to secondary settling chamber through pipe at left. Rejects pass through pipe at right to disintegrator pump and Selectrap.

With over $1,000,000 worth of new paper-making machinery installed and in production, engineers at Pioneer Division, The Flintkote Company, Los Angeles, are cautiously optimistic in appraising the early performance of the modernized and expanded plant. But the new equipment is apparently fulfilling its purpose of increasing production by 20,000 tons a year.

There is no question, however, that the expansion program has made the plant one of the most modern in the country, with a number of "firsts" in equipment and methods to its credit, and boasting several engineering accomplishments of interest and merit.

Pioneer - Flintkote manufactures paperboard, roofing felt, industrial and building papers, paper for agricultural uses, and also has extensive converting operations. (It was previously rated at 260 tons daily capacity.) A new activity is the manufacture of Tile-Tex, an asphalt-base floor tile.

When the war was still in full fury (Allied troops had just occupied Rome and landed on the Normandy coast), Pioneer-Flintkote received WPB authority to order new papermaking machinery to increase the plant's production, because of military needs for its products. Thus began an expansion and modernization program which, with the end of wartime restrictions, has proceeded beyond original plans and constitutes an important development in the progress of the pulp and paper industry on the West Coast.

Basic equipment, so to speak, of the plant consists of three Black-Clawson machines, with the corresponding stock preparation equip-

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Large stocks carried at all times, permitting prompt shipments . . . Uniformly high purity of 99½% or better . . . Free of arsenic, selenium and tellurium.

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Mine: Newgulf, Texas

L. M. SIMPSON, Vice President and General Manager, The Pioneer-Flintkote Co., Los Angeles, Calif.

ment, storage facilities, etc. The largest individual units added to this basic plant are two Shartle-Dilts Hydrapulpers driven by Terry steam turbines, and a Pusey & Jones Streamflow vat and mold. In addition, entirely new waste-paper storage and handling facilities simplify the handling of waste papers and protect them from the weather.

New Types of Equipment

Of the two new Hydrapulpers the larger (150 tons a day capacity) was installed in the stock preparation area supplying the Number 2 machine. The Hydrapulper is a huge open tank, 18 feet in diameter, 10 feet deep, with a revolving disc in the bottom provided with a series of raised vanes, which keep the water and stock in the Hydrapulper revolving at high speed. Motive power is supplied by a Terry steam turbine, 200 hp, 3949 rpm which is reduced to 785 in a gear train, then further reduced to 165 rpm at the impeller in the Hydrapulper. Gear reduction ratio is 4 to 1. Initial pressure for this turbine, as well as for the turbine driving the smaller Hydrapulper, is 175 psi, exhaust pressure 20 psi.

These are the first Hydrapulpers in the country driven by steam turbines. Turbine drive, according to Pioneer - Flintkote engineers, gives greater flexibility in speed; and besides that, the steam which drives the turbines is used to heat the water in the Hydrapulper, for extra ecenomy.

The Number 2 machine has been further improved by the addition of a Shartle Grit Remover, one of the first postwar installations of this type of equipment. The grit remover operates, briefly, as follows:

Stock discharged from the Hydrapulper at 1½% consistency is pumped into the inlet end of the primary grit remover, which is a 12-ft. long settling chamber with a screw conveyor in the bottom. At the inlet, white water from the thickness reduces the stock consistency to 1%, and coarse, heavy trash settles out in the primary grit remover. From the discharge end of the primary grit remover, the stock passes to a Classifiner screen with ⅛-in. holes. Accepted stock passes on into the secondary section, while rejects pass through a spool orifice into a disintegrator pump which fines up the stock without grinding up the trash, then passes the stock to a Selectrap screen.

The accepted stock from the Selectrap screen, and the main discharge of clarified stock from the Classifiner, both pass through the secondary section of the grit remover together. Thinned to ½% consistency with white water from the thickener, the stock flows at about 30 ft. per min. through a 16-ft. long chamber while sand, metal shavings, glass, etc., settle to the bottom. A spiral conveyor carries the trash to one end, where a chain conveyor lifts it out of the stock level for final disposal. Good stock proceeds to the thickeners. This Grit Remover system was installed for use in producing filler stock. For liner stock preparation, a new Hydrapulper, 12 ft. in diameter, 50 tons daily capacity, is on order and preparations are under way to install it in the stock preparation system for the Number 2 machine.

The smaller of the two Hydrapulpers now operating is 16 ft. in diameter, 9 ft. 3 in. deep, with a capacity of 100 tons a day. The Terry turbine driving this unit develops 150 horsepower at 3180 rpm, which is reduced by gears to 530 rpm and again to 148 rpm at the impeller. Gear reduction rate is 3.55 to 1.

Although each Hydrapulper is customarily used for stock preparation for its corresponding machine, the units are cross-connected so that either one may be used to serve any one of the three machines.

Shartle pumps were installed to serve both Hydrapulpers, the larger being served by a pump with a capacity of 1250 gallons per minute, driven by a General Electric motor operating at a constant speed of 965 rpm. The smaller Hydrapulper pump has a capacity of 800 gals. per min., 20-hp G.E. motor, 965 rpm.

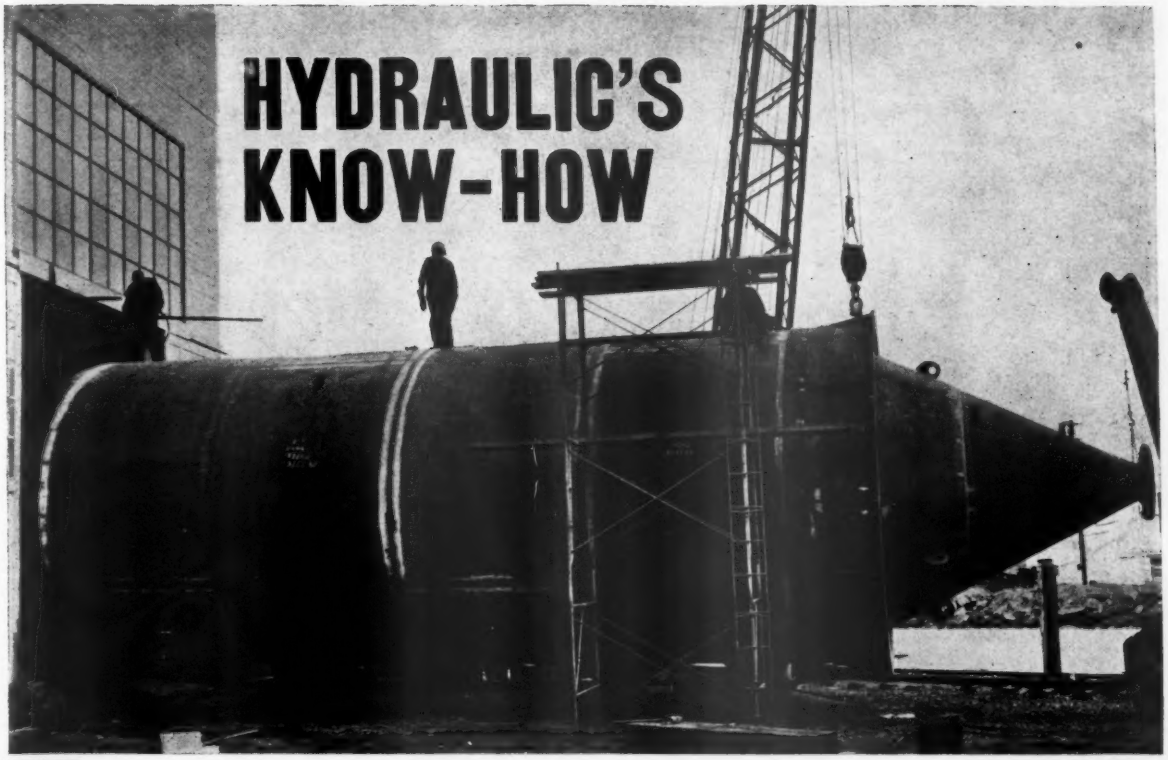
GLEN A. PHILLIPS, General Superintendent, Paper-Felt Mill, The Pioneer-Flintkote Co., Los Angeles, Calif.

The existing G.E. switchboard has been greatly enlarged to take care of the new equipment, which includes white-water pumps, stock pumps, vat pumps, etc., in addition to the major units separately mentioned.

New Pusey-Jones Vat and Mold

The new Goldsmith Streamflow vat and mold, manufactured by Pusey & Jones, is the first installation of its kind in the world, and represents some highly original innovations in mold design. The mold, which has a diameter of 60 in., is driven by rack and pinion gears, and instead of a single shaft passing through the center of the mold, as in conventional molds, four shafts pass along the inside periphery. This drive system makes it possible to eliminate the conventional bronze webbing or spiders and provide for a vacuum box which maintains a higher vacuum within the mold. By this means, the mold holds the formed sheet more frmly in place, maintains good formation and operates at higher speed. Drive gears at both ends of the mold insure an even pull.

The mold revolves in an adjustable circle in the vat. The circle can be adjusted to give various clearances in relation to the revolving mold. To place the entire paper-making operation within close control, the mold is driven by a General Electric amplidyne drive which synchronizes the speed of the mold



New type of stainless steel lined digester for an Olympic Peninsula Mill, designed and fabricated by A. O. Smith and assembled by Hydraulic Supply

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SOME NEW IDEAS AND NEW EQUIPMENT ARE SHOWN HERE. At left is the newly developed Pusey & Jones Streamflow vat. The large tank in background is the upflow which brings pulp up to a center core, out of which it spills out into the outer portion of the tank and passes to and through the vat. At right, the huge sub-floor news stock storage cellar. In upper part of picture are seen the ground-level openings through which news is dumped into chamber. Discernible in floor is conveyor-belt channel. News is fed to conveyor through sectional openings in the channel. There are also trap doors for unloading waste paper.

with that of the steam turbine driving the machine.

New Ideas in Stock Storage

In the handling and storing of stock, several engineering accomplishments are of particular interest.

Prior to the recent expansion, the stand-up stock back of the stock preparation equipment and beater-rooms was open to the weather. The disadvantages of this arrangement are many and obvious. Not only was there considerable weather damage from time to time, but a constant fire hazard existed, since it was impossible to hang a sprinkler system from the blue sky above. To bring the stock under roof, Pioneer built an ultra-modern airplane-hangar type building, fully sprinklered, covering practically the entire raw material storage area back of the beater room. And under about two-thirds of this building the engineers built a 20-foot deep basement which is the more interesting part of the installation.

The basement is 172 ft. long and 40 ft. wide at its narrowest section. A slot 42 in. wide runs down the center of the floor for its entire length, and under this slot is a conveyor, mounted in a roomy sub-floor tunnel so as to be accessible for maintenance and repairs. Up under the ceiling of the basement, along the greater part of the east wall, are hatches which open on the driveway where trucks enter with loads of bundled and loose news.

Paper stock (primarily newspapers) is pushed off the trucks through the hatches, falls by gravity to the floor of the storage basement and is thence pulled by forks into the conveyor trench. The conveyor carries the paper stock from any part of the basement to a connecting inclined conveyor 85 ft. long, which rises on a 31-deg. slope to the floor above, delivering paper stock directly into the Number 2 Hydrapulper. Paper stock thus handled and to be used in other preparation units is diverted at the delivery end into a chute which discharges into boxes mounted on casters, which in turn can be wheeled to any part of the plant.

By this method, news stock in large or small bundles, or loose, is moved from the trucks to storage, and from storage to the Hydrapulper, with scarcely any intermediate handling. It should be noted, too, that stock is delivered to the Hydrapulpers through the floor instead of having to be lifted over the side of a beater.

For safety, the hatches through which the news is dumped into the storage basement are closed with grills when not in use. Employes working in the basement are protected from falling into the conveyor trench by a simple and original safety device. Two-by-six boards, fastened together in groups of four, are normally laid over the trench, making a solid floor. When stock is to be fed to the conveyor, only those boards covering the section of trench to be fed are slid back to provide the opening. This leaves no other openings into which operators could fall.

Double protection against fire in the basement is provided by overhead sprinklers to control surface blazes, and a steam-pressure system to smother deep-seated fires. The basement is divided into six zones, with a valve for each zone at a central control point. In the zones, discharge heads are placed 6 ft. apart, and steam is delivered to the heads through ¾-in. pipes under 25 to 50 psi pressure.

Quick handling of stock is also provided in the new 100,000-sq. ft. warehouse which was purchased and remodeled as part of the expansion program. Through the center of this building, a sunken driveway, as deep as the height of a standard truck bed, was built. Trucks enter one end of the building, unload at any point along its entire length, on either side of the truck, and exit at the other end.

The story of Pioneer-Flintkote's recent expansion is only half told with a report of the major units. Additional important improvements have been made throughout the plant.

On Pioneer's Number 1 machine, which has 98 driers and is one of the highest stack drier machines in the country, a Shartle Brothers Selectrap, a new thickener (in addition to the original two) and a new settling trough have been added. For greater production, the size of the perforations in the backfall extractor plate of the breaker beaters has been enlarged; and the hot air supply has been increased, to increase machine capacity.

Number 3 machine, which emerges as a notably modern and complete papermaking unit, is now driven by

Artist's Conception of the First Paper Mill Built in America, in 1690.

From "A Pictorial History of Paper" published by Bulkley, Dunton.

PULP PAPER

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VIEWS IN PIONEER-FLINTKOTE mill in Los Angeles:
1. Here is first step in Chemipulper processing of logs for stock preparation. Eucalyptus logs are conveyed to the chipping machine, chipped and blown to an overhead storage room, whence they are fed as needed to the Chemipulper.
2. The Chemipulper, equipment supplied by Paper & Industrial Appliances, Inc., New York. Overhead is the chip service bin and plunger feeder. The plunger rams chips into the horizontal pre-heater and finally into the steam chamber, where the chips are cooked under 200 lbs. steam pressure. Pulp is finally baled and carried on dollies to the stock prepartion areas.
3. Close up of horizontal pre-heater and steam chamber in Pioneer-Flintkote's Chemipulper. At extreme right, above, is chip service bin and directly below is chip feeder. Various kinds of wood are used, but eucalyptus has been found least scarce.
4. No. 1 machine, showing safety stairways and cantilever-type earthquake protection. Columns after the machine are intended to make it "earthquake-proof." The tapering buttresses seen at right act as cantilevers, anchored solidly in the concrete foundation below visible floor. The fulcrum point is the floor on which men in picture are standing. By means of cantilevers, the floor, which acts as a girder, takes side thrusts caused by the occasional California earth tremors rocking the machine.
5. This Agi-flow pump (at right) acts as an agitator for stock chest on No. 1 machine stock preparation system. Pipe delivers pulp to the screens, thence accepted stock goes to vat.
6. Scene in Pioneer-Flintkote's finishing department. It's new box and container converting set-up is ultra-modern.

a Terry turbine which replaces the original reciprocating steam engine. Pioneer engineers express high satisfaction with this new line shaft drive. In addition to the Hydrapulper, a new settling trough, Shartle Selectrap and thickeners, and necessary chests have been added.

Thirty-two Black-Clawson driers bring the total on Number 3 machine up to 71, and the machine has been equipped with Sheahan rope carriers.

The J. O. Ross Engineering Corp. is now building a new hot air system with which the machine will easily produce the forecasted additional tonnages, according to Pioneer engineers.

L. M. Simpson is vice president and general manager, J. H. Setinsky is manager of the paper mills and Glen Phillips is superintendent.

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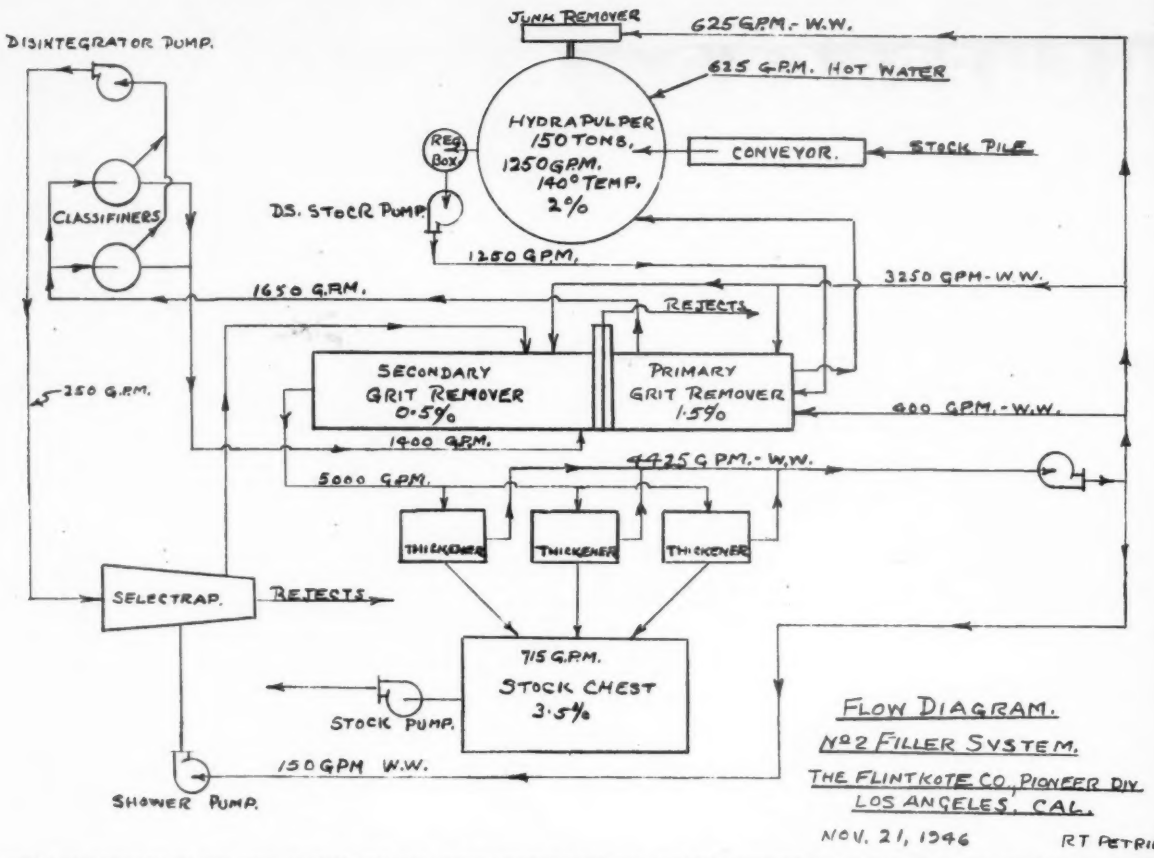


THIS DIAGRAM IS OF NO. 2 SYSTEM OF PULP PREPARATION AT THE PIONEER-FLINTKOTE MILL IN LOS ANGELES

This is the most complete and comprehensive of the three systems installed at the mill, according to Shartle Bros.-Dilts engineers who developed these systems. This No. 2 system is described in the article on these pages by Robert T. Petrie, Pacific Coast representative of those companies.

The following article is of special interest in connection with two other feature articles in this issue. It describes in detail some of the pulp preparation equipment mentioned and illustrated in the preceding article on new installations at The Pioneer-Flintkote Co., Los Angeles. It also describes equipment at the J. R. Booth, Ltd., mill in Ottawa. Pictures of that mill and a story of its amalgamation with the E. B. Eddy Co. is carried on page 33 in this issue. This paper was presented at the Pacific Coast Superintendents Convention in Seattle in November, 1946.

STOCK PREPARATION SYSTEMS

By Robert T. Petrie, Representative of Black-Clawson, Shartle Bros., Dilts Cos.

In the past we have been inclined to consider stock preparation as the work of one particular piece of equipment, but after many years of research by Shartle Brothers Machine Company and the Dilts Machine Works, we have arrived at a conclusion that stock preparation to be successful must be considered as a system designed for each individual mill, and the grades of paper to be produced.

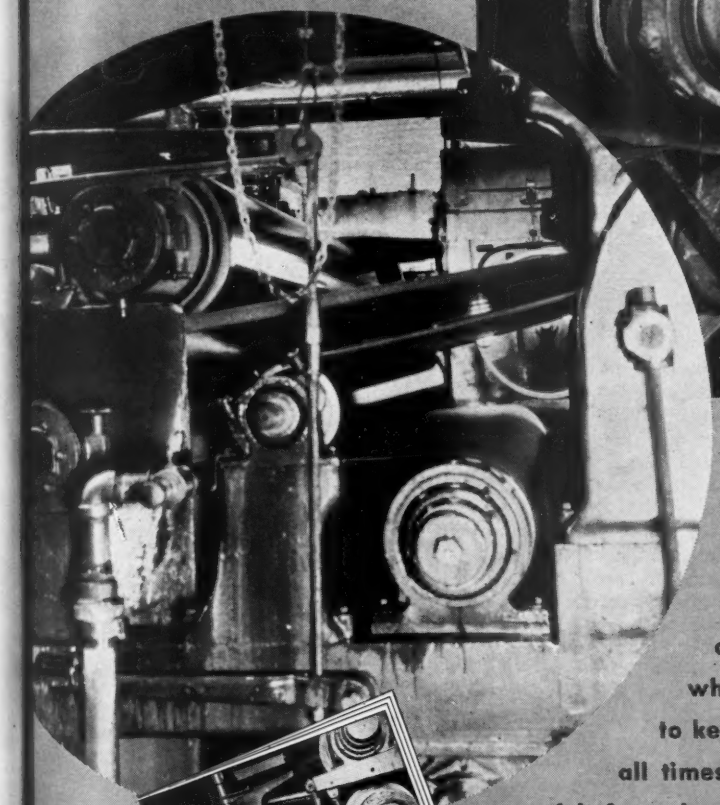
To start with, we will consider stock preparation from dry pulps; such as laps, sheets, rolls, etc. Today the Hydrapulper (see photo in preceding article on The Pioneer Flitkote Co.) has proven the most successful piece of equipment for the breaking up or slushing of pulps in this form, and almost invariably the batch system is used on all clean pulps. The batch Hydrapulper is built in sizes from 3 to 20 feet in diameter and consists primarily of a cast iron or fabricated steel tank with a dished bottom at the center of which is a heavy impeller driven by a motor or turbine through a hypoid or spiral bevel gear drive.

To supply water to the pulper it is best to install an overhead tank, equipped with a large discharge valve so the Hydrapulper can be filled in a few minutes. The tank should also be equipped with a variable level control so any predetermined amount of water can be furnished. The water is added to the hydrapulper first and the pulp is added by means of a skip hoist or a horizontal charging conveyor. The

(Continued on page 56)

Continuous Full Width Cleaning

of Press and Pick-up Felts



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Longview Meeting High Lights—Shibley Award Paper and Kraft Bleaching Symposium

Dinner speaker (above, at left) is Howard Morgan, new Mgr., Pulp Div. Weyerhaeuser Tbr. Co. He is flanked by Geo. Galloway, Chairman, at left; R. S. Wertheimer, Longview Fibre Co., vice pres. and Mgr. at right. Below is the Bleaching Panel (l. to r.): Moderator Ray Hatch; Dr. Walter Holzer; P. S. Billington and Dr. J. L. McCarthy.

In the next column is Paul E. Barr of Rayonier, who gave Shibley contest paper on sodium aluminate experiences (see next issue).

Three movies: "Trees for Tomorrow," "Freeport Sulphur Co." and a sports film, were shown.

The season's second Shibley Award Paper, entitled "Experiences With Sodium Aluminate in Paper Making" was presented by Paul E. Barr of Rayonier Incorporated, Hoquiam, Wash., at the Pacific Section TAPPI meeting in Longview, Wash., January 14th. (This paper will appear in a future issue of this journal.) About 150 persons attended the meeting. The remainder of the afternoon session, over which George Gallaway of Crown Zellerbach Corp., Camas, presided as chairman, was devoted largely to a kraft bleaching symposium. Members of the panel included Moderator Raymond S. Hatch, Director of Research, Weyerhaeuser Timber Co., Pulp Division; Dr. J. L. McCarthy, Department of Chemistry and Chemical Engineering, University of Washington; P. S. Billington, Research Dept., Weyerhaeuser Timber Co., Pulp Division; and Dr. Walter F. Holzer, Central Technical Dept., Crown Zellerbach Corp.

Moderator Hatch, in introducing the panel discussion topic, mentioned that there are probably more systems and theories of kraft bleaching than there are kraft mills. His panel members presented three different aspects of bleaching: 1. fundamentals; 2. various sequences; 3. fancy and exotic bleaching agents.

Dr. McCarthy presented the "fundamentals," giving the theoretical background, outlining optimum, temperature, time, and concentration of chemicals. He layed particular emphasis on washing to remove solubilized lignin derivatives.

Paul S. Billington followed up with the subject of Sequences of Chlorination in kraft bleaching, indicating that the simpler the operational process the better.

He discussed three basic types of bleaching procedure. The first was simple chlorination, caustic extraction, bleach; Second, the procedure in which the caustic stage is proceeded by partial oxidation stage; and third, the procedure in which a so-called "pre-bleach" prior to chlorination is employed.

According to Billington, any bleaching procedure, in which maximum strength is required, coupled with maximum brightness, the bleach requirement (as measured by "bleachability") of the pulp after hot caustic extraction must be low, as this will permit brightening by the use of low concentrations of oxidative chlorine.

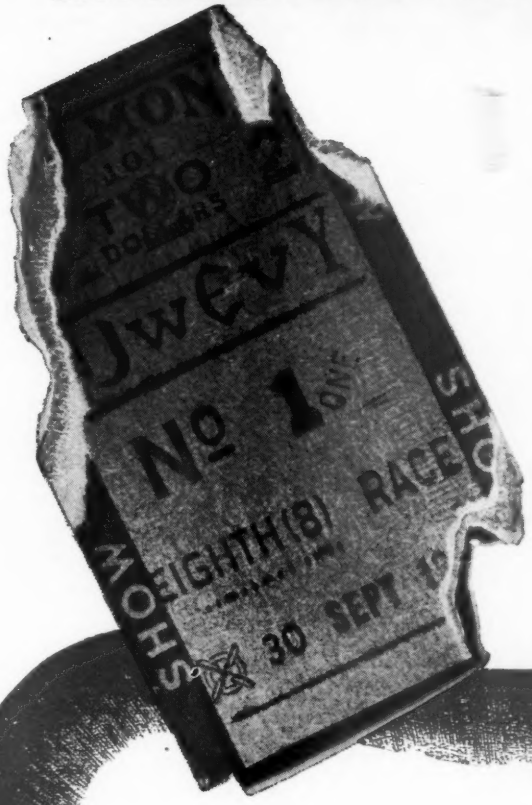
In the case of the second type (above) this brightening can be accomplished with about twenty pounds of CL_2 per ton in the final bleaching stage, whereas with the first type procedure (above) about 45 pounds per ton are required. This high concentration results in cellulosic degradation with resulting lower strength. No value in "pre-bleaching" was seen.) Multi-stage chlorination produces no advantages if maximum chlorination is attained in one stage.

Dr. W. F. Holzer brought up the final phase of the symposium with a paper on "Special Bleaching Agents." Chlorine, hypochlorite, and caustic soda are of such effectiveness and of such price level that they are not expected to be generally replaced by other agents, he disclosed. But cases in which strong pulps of exceptional whiteness, and carrying premium prices, special bleaching agents may find application. On the other hand he said, " . . . as we learn more about controlling hypochlorite we reduce the need of these other agents."

Among the agents mentioned by Dr. Holzer are sodium chlorite, sodium peroxide, chlorine dioxide, hydrogen peroxide, permanganates, persulfates, perborates, and ozone. Regarding agents such as sulfites and hydrosulfites, he said, "their action in brightening is limited and the effect is not permanent since it is an indicator-like color change and not an elimination by destruction."

In conclusion he mentioned that special bleaching agents have application where exceptionally high brightness of kraft is required without deteroriation of strength, but will probably not enjoy general use until needs warrant the expense, "a more important development would be to extend to chemical pulps the principle of bleaching groundwood without removing lignin, thus materially improving yield and in turn saving wood."

INTERESTING FACTS ABOUT PAPER



As a precaution against fraud, tickets to sporting events are made by laminating two pieces of paper to a brightly colored sheet to form a paperboard. When the ticket is torn by the ticket taker, the colored center can be spotted. An additional precaution is often taken by coloring the surface sheets with fluorescent colors or inks.

INTERESTING FACTS ABOUT METHYLENE BLUE 2B CONC

Methylene Blue 2B Conc. is a clear, greenish, basic blue. It possesses good solubility and is suitable for all types of coloring—beater, calender, and coating. It is extensively used on kraft, tissue, boxboard, wrapping, and poster paper, to produce shades varying from light blues and grays to deep and medium blues. It is used on both sized and unsized papers. When treated with tannic acid, the light fastness is materially improved.

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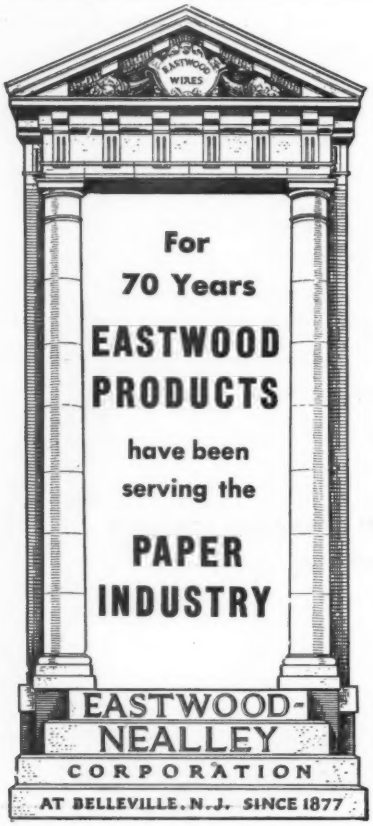
DR. WALTER HOFFMAN (right) is the comparatively new Superintendent of California-Oregon Paper Mills' Los Angeles plant, pictured here with Ray Allen, Purchasing Agent.

Dr. Hoffman can look back on 20 years of papermaking, East and West. For 14 years, from 1926 to 1940, he was technical director and assistant superintendent of Northwest Paper Mills, at Cloquet, Minn. From there he went to the Fitchburg (Mass.) Paper Co., and served there for five years as Superintendent of Manufacture. He is just completing his first year with California-Oregon. Dr. Hoffman holds degrees of Ph. D. and M. A. from the University of Minnesota, and A. B. from Nebraska Wesleyan.

Pulp Importers Elect

The Association of American Wood Pulp Importers, New York, recently elected as president, Rolf G. Westad; vice-president, J. Donaldson; treasurer, V. Ramsay; secretary, G. F. Baine, and director, A. J. Pagel.



GEORGE O. NELSON (wearing hat, at left) is new Technical Director, and JAMES S. BRAWN (right) is Chemist at Empire, Ore., devision of Coos Bay Pulp Corp. (Scott subsidiary), according to announcement by Vice Pres. and Mgr. Wylie Smith.

Mr. Nelson was formerly at Crown Z mill in Camas and Mr. Brawn came from Pacific Mills, Ltd., Ocean Falls, B. C.

Cost of Living Voluntary Supplemental Pay Increase On Coast

The Pacific Coast Association of Pulp and Paper Manufacturers has notified the National Headquarters of the two A.F. of L. Unions, with which Unions the member mills of the Association have a 12-year-old Uniform Labor Agreement, that its thirty-two member mills will, as of January 16, 1947, voluntarily supplement the total earnings of each employee who is subject to the Uniform Labor Agreement by an amount equal to ten per cent of such total earnings. This voluntary ten per cent supplement is to be based on the total earnings, including overtime and premium payments.

The Association specifically stipulates in its announcement that this voluntary supplemental payment does not in any way modify or amend the current Uniform Labor Agreement now in effect.

The last change in wage rates was made on June 1, 1946, at which time the base rate for men became $1.09 per hour.

Jim Rubush Leaves Goslin-Birmingham Post

James P. Rubush, well known among the equipment people in the pulp and paper industry, has resigned as sales manager of Goslin-Birmingham Mfg. Co., in New York City, and is now residing at 301 North Wenatchee Ave., Wenatchee, Wash.

K. A. Forrest Joins The Mead Corp.

K. A. Forrest has been appointed technical consultant of The Mead Corp., Chillicothe, O., according to an announcement to PULP & PAPER INDUSTRY by H. E. Whitaker, vice-president.

Mr. Forrest was formerly with the Northwest Paper Co. of Cloquet, Minn.

Gerald Green Joins Fibreboard As Chemist

Gerald Green, former chemist at Puget Sound Pulp & Timber Co., and later assistant to the alcohol plant superintendent at that Bellingham, Wash., mill, has been appointed chemist at the Port Angeles, Wash., division of Fibreboard Products, Inc., it is announced by Vice President N. M. Brisbois.

Hearst Buys Another Eastern Mill

George Newcombe, Hearst Enterprises paper producrement division, has verified to PULP & PAPER INDUSTRY that the Hearst organization has bought Halifax Power & Pulp Co., Ltd., formerly APW Pulp & Power Co., at Sheet Harbor, Halifax County, Nova Scotia.

This is the second mill purchase by the Hearst organization in a little over a year, the previous one being the Pejebscot mill in Brunswick, Maine.

The Halifax mill has three Kamyrs producing groundwood and groundwood screenings totaling capacity of 100 tons daily. Also purchased by Hearst was 200 square miles of mainly spruce.

Kansas City Star Buys Wisconsin Mill

The Kansas City Star Company, publishers of two daily newspapers and a weekly, announces it had bought the Flambeau Paper Company of Park Falls, Wis., to supplement its newsprint source.

Purchase price of the paper mill, employing 290 workers and with an annual capacity of 23,000 tons of paper, will be close to $3,500,000.

The mill has been producing paper of a higher grade than newsprint and The Star announced it would continue to supply present customers, converting only about half of its output for the present at least, to newsprint.

Dufford of Paterson Lands Big Salmon

J. R. Dufford, assistant general manager, Paterson Parchment Paper Co., Bristol, Pa., accompanied by Mrs. Dufford, spent a recent vacation on the Pacific Coast, while in California.

Mr. Dufford, an ardent fisherman and hunter, reported that he landed a 60½-lb. and a 48-lb. salmon on the Smith river in Del Norte county. The fish was canned for him at the Smith River cannery. Later, Mr. Dufford made a trip through the Pacific Northwest.

St. Helens Boss Machine Tender Passes

William L. Haling, boss machine tender of St. Helens Pulp and Paper Co., St. Helens, Ore., died at his work Dec. 29th, as result of a sudden heart attack. He came with the firm as machine tender in November, 1928, after having previously worked Filer Fibre Co., Manistee, Mich.

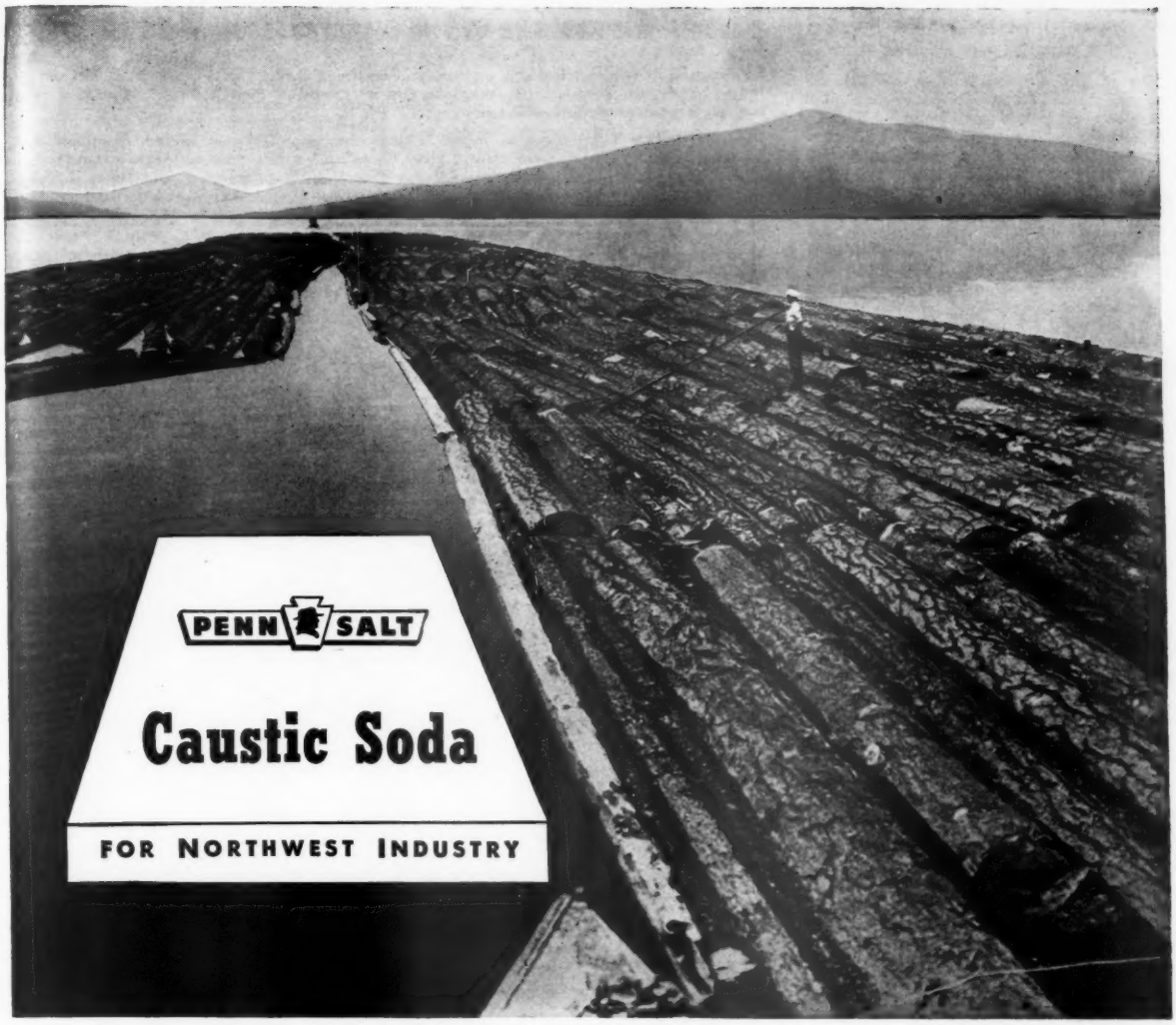
This plant was built by Max Oberdorfer, now president and general manager of the St. Helens mill, before coming west and building the mill he is now operating.

George Raney, formerly tender on number two machine, has been promoted to boss machine tender.

Cowie Named H. & W. Sales Manager

Jack B. Cowie has been named sales manager of Hollingsworth & Whitney Co. by President J. L. Madden.

Mr. Cowie joined H. & W. in 1930 after several years' experience in paper mill selling. Since 1943, he has been New York sales manager and will continue to make headquarters there.



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IT HELPS YOU EVERY DAY

● Yes, caustic soda is important to you in the pulp and paper industry; but, far more than you may realize, it enters your life every day in many vital ways.

Whenever you wash, you use caustic soda . . . it is a basic ingredient in soap. It helps to prepare fruit for preserving. It played a vital role in producing your car, your watch, razor blades and kitchen ware . . . your shoes, clothes, linens, woolens, cottons, rayons. And it is used in producing oils, matches, explosives, boiler compounds, and many other things in constant use.

It's a chemical of many trades . . . innumerable uses. And for all trades and purposes, Pennsalt supplies, as it has for many years, caustic soda of highest quality.

PENNSYLVANIA SALT
MANUFACTURING CO. OF WASHINGTON
Chemicals
TACOMA, WASHINGTON

Pennsalt products include:
Caustic Soda and Liquid Chlorine
for the Pulp and Paper Industry
Also:
Bleaching Powder • Anhydrous Ammonia • Perchloron* • Sodium Chlorate • Potassium Chlorate • Sodium Arsenite • Sodium Hypochlorite.
*Trade Mark Reg. U. S. Pat. Off.

Expansion in Canada's West Coast Area Forecast

In an interview with PULP & PAPER INDUSTRY, E. T. Kenney, British Columbia Minister of Lands and Forests, said he believes that British Columbia will continue to see expansion in the pulp and paper industry, and he thinks that the greatest opportunity for utilization of forest resources now neglected may rest with pulp and paper mills. He indicated that there may be room for six additional pulp mills in the province—two in the Prince George area, one near Nelson, two on Vancouver Island and one up on the west coast of the mainland.

One of the difficulties with respect to pulp mill development is that in several areas otherwise suitable the timber available is in scattered lots and not easily accessible to the prospective mill.

The British Columbia government, through its department of lands and forests, is now preparing legislation designed to bring into effect a program of long-term forest management, based on the recommendations of the Sloan Commission.

While some of the major proposals of Chief Justice Gordon Sloan, of the province, notably the suggestion that control of the forest resources be placed in the hands of an independent commission, are being left in abeyance—for the time being anyway—Mr. Kenney emphasized in discussion with PULP & PAPER INDUSTRY that the government has not in any sense rejected the report, as has been implied in some quarters.

"If the government seems to be overcautious in making the recommendations of the Sloan report immediately effective it is only because we recognize the far-reaching impact of Commissioner Sloan's suggestions and are fully aware that they cannot be translated into law overnight."

Rehabilitated Ogdensburg Mill

The first important addition to sulfite pulp production in the United States since the Rayonier mill at Shelton, Wash., reopened over a year ago is announced by B-F-D Company (formerly known as Berst-Forster-Dixfield) with completion of repairs and improvements on the long-idle Ogdensburg, N. Y., mill.

This mill, purchased by B-F-D in 1944, will add 130 tons daily to sulfite output in this country and that is one of only a few increases effected in that field in either Canada or the U. S. in several years.

Sulfite pulps are now being made for the B-F-D paper mill at Plattsburg, N. Y. The groundwood section went into operation in Jan. 1946.

Engineering and design was done by Charles T. Main, Inc., Boston, Mass., except for some acid system and digester changes.

An official of Chas. T. Main, Inc., pointed out that "the renovation at the sulfite mill is of particular note as an example of the application of the latest equipment and methods to an old mill."

J. O. Julson, general manager of B-F-D's Pulp and Paper Division, was in charge of the work.

New Branch of Canadian Tech. Sec.

As reported in a recent issue, a meeting in Vancouver, B. C., Oct. 11, was the "kickoff" for the new Western Branch of Technical Section of Canadian Pulp & Paper Association. Here are participants and first officers:

Top row (left to right): Douglas Jones, Secretary-Engineer, Technical Section, Montreal; R. C. Bledsoe, Control Superintendent, Powell River Co., and first Chairman of Western Branch; John Ashby, Technical Director, Westminster Paper Co., and Vice Chairman; and Harry Andrews, Technical Director, Powell River Co. Second row (left to right): John Carlson, Assistant General Superintendent, Soundview Pulp Co., Everett; W. A. Bain, Resident Engineer, B. C. Pulp & Paper Co., Woodfibre, B. C.; Leo Kelley, General Sulfite Supt., B. C. Pulp & Paper Co., Woodfibre; and Norman Chappell, Pulp and Paper Division, Canadian Department of Trade and Commerce, Ottawa. Third row: Henry Ostrowski, Pacific Mills, Ltd.; H. Maurice Shockley, Canadian General Electric; J. S. Brown, and R. H. R. Young, Manager of Manufacturing, Pacific Mills, Ltd.

Fibre Making Processes, Inc. (Chicago and San Francisco), supplied two new barking drums.

An extensive project in tile linings and renovation of digesters and blowpits was carried out by Stebbins Engineering & Mfg. Co., Watertown, N. Y. Four 15x45 ft. digesters were relined and piping renewed and four 41x18x17 ft. blowpits were relined. Blowpits can all be inter-connected, though normally operating in pairs.

New washing and screening equipment has been installed in an old screen building. Improved Paper Machinery Corp., Nashua, N. H., supplied an 8x16 rubber-covered vacuum washer, also the stock meter ahead of it. This company also supplied flat screens and screen plates were furnished by Magnus Metals Corp. (formerly Wm. A. Hardy & Sons Co.) of Fitchburg, Mass. An Impco 8x12 ft. vacuum thickener is also an important unit.

Knots are removed at 8 new tile-lined rifflers, 6x42 ft. There are 12-14 plate primary screens, 6-14 plate secondary screens and three tailing screens. Primary screens are in 6 lines of 2 screens each with dilution boxes, but no showers. Three secondary screens are in series with tailing screens for each and dilution box between. Stock from thickener to pulp machines is controlled at 3.5% by regulator.

All stock and white water lines in screening were prefab steel and nickel-lined pipe with stainless steel ahead of the washer.

The acid system was overhauled and new digester circulating systems were engineered by Chemipulp Process, Inc.

Buys Minesweeper

Consolidated Paper Corp., Montreal, has purchased a 105-foot wooden minesweeper from War Assets Corporation in Vancouver for conversion at West Coast Salvage Co. into a St. Lawrence River freighter.

Riegel Advances Robert H. Evans

Directors of Riegel Paper Corp. have elected Robert H. Evans as assistant treasurer and assistant secretary of the company.

Mr. Evans was formerly chief of the Pulp Allocation Office of the War Production Board, resigning late in 1945 to go with Riegel as executive assistant.

Scott Buys Sandusky Plant Property

Scott Paper Company has announced the purchase of the land and buildings occupied by the Sandusky, Ohio, plant of its Cut-Rite Division from The Sandusky Foundry and Machine Company. The property, formerly leased, includes manufacturing building, a small warehouse and several wax storage tanks situated on approximately 2¼ acres of land.

Scott acquired the assets of Automatic Paper Machinery Company, former operators of the Sandusky plant, in the spring of 1945, and established at that time the Cut-Rite Division which specializes in the manufacture of a cutterbox wax paper under the trade name of Cut-Rite.

Sandsky employs 80 people. Calvin T. Dussoulas, formerly of Scott's Chester, Pa., organization, is local manager, and Harry Kentus, a Sandusky resident, is production manager. Russell M. Heath is the general manager of the Cut-Rite Division, with offices at the Hoboken, New Jersey, plant.

Dr. Long Promoted In Hercules PMC Dept.

Dr. John M. Long, formerly manager of the sales research division of Hercules Powder Co., Wilmington, Del., has been appointed special assistant to the general manager of the Paper Makers Chemical Department.

Woman President Honored by NAM

The only woman president in the envelope industry in America, Miss N. Myra Glazier, was given an award recently by the National Association of Manufacturers, as one of the four outstanding women industrialists in the country.

Miss Glazier, who started as a payroll clerk, progressed to president-treasurer, and chairman of the board of Sheppard Envelope Co., Worcester Mass.

Hayes Joins Firm Of Chas. T. Main, Inc.

Chas. T. Main, Inc., has added Wilbur Hayes to its engineering staff. Mr. Hayes had been plant engineer for M & O Paper Co., International Falls, Minn. since 1944.

He was plant engineer at Rhinelander Paper Co., Rhinelander, Wis., from 1933-1944 and was in charge of chemical laboratories at Appleton and Stevens Point, Wis., from 1927-1933 for Consolidated Water Power and Paper Co.

Plant Broadcasting

Installation of a complete plant broadcasting system has been effected by the Sonoco Products Co., Hartsville, N. C.

Buckman Laboratories Sales Mgr. Tours Continent

William D. Stitt, sales manager of Buckman Laboratories, Inc., Memphis (8), Tenn., is covering widely separated regions of the pulp and paper industry in a short space of time this winter in furthering his company's slime control "campaign."

In mid-January he was touring Pacific Coast mills with William Marshall, of Pacific Coast Supply Co., western representatives of Buckman Laboratories. Then he headed across Canada to the annual industry meeting in Montreal. By mid-February he expected to be visiting big Southern mills on the southern coast, heading back to New York City's "Paper Week" in late February with Dr. Buckman.

Slime control is a problem mainly on the "fringes" of the North American industry—East, South and West Coasts and through Canada. Apparently, it is "trickiest" and most difficult in groundwood mills.

Gardner-Richardson Elects New Officers

At the recent meeting of directors of The Gardner-Richardson Co., Middletown, O., the resignation of R. R. Richardson as vice president and secretary was accepted. He will, however, continue to serve on the board.

Colin Gardner III was elected secretary and W. W. McIntire was named director of purchases, both posts formerly held by Mr. Richardson. R. O. Brosius was elected assistant secretary.

Knickerbocker Heads Central Paper Co. Control

A new research laboratory of Central Paper Company, Inc., of Muskegon nears completion.

C. W. Smith, president, announces that Robert L. Knickerbocker, chemist with the company, has been appointed director of control laboratory. He has complete charge of the technical control of processes and products, which will be separated from other research work. Appointments of the research staff will be announced later.

Reported Banning U. S. Mill in Quebec

A Toronto financial paper reports that some observers have taken Premier Duplessis' recent declaration against permitting more newsprint mills in Quebec (See Page 66, Dec. PULP & PAPER INDUSTRY) statement to be the answer to rumors that United States publishing interests were attempting to gain control of either Donnacona Paper Co. stock or assets, or timber limits held by that company.

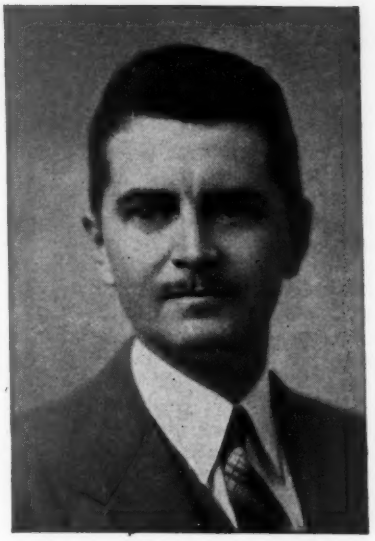
Forty-six pulp and paper mills operated in Quebec last year.

Unioin Bag Starts New Type of Ad

Here's a new idea for pulp and paper mill institutional advertising:

Prominent Southeast U. S. citizens are asked by Union Bag & Paper Corp. to comment on how a business can help sustain prosperity for many people not directly connected with the business. Pictures of these prominent citizens and their comments are used in advertising.

Union Bag is using ads in 230 different newspapers in Georgia telling how $7,000,000 spent annually for pulpwood helps sustain other business.



E. P. McGINN, known to many friends as "Pat," recently joined the Sales-Engineering Staff of Sutherland Refiner Corp., Trenton, N. J. Mr. McGinn was formerly Chief Chemist, Paper Division, National Oil Products Co., Harrison, N. J. Before that, he was Pulp Research Supervisor for M. & O. Paper Co., International Falls, Minn., and Chemist and Beater Foreman for Champion Paper & Fibre Co. at Canton, N. C., and Hamilton, O. Previous connections were at Deferiet and Utica, N. Y., mills.

Bulkley, Dunton and Carter, Rice Merge

Carter, Rice and Company, Corp., Boston, and Bulkley, Dunton and Company, Inc., New York, and Springfield, Mass., have merged.

Hubert L. Carter, former principal owner, who has been associated with Carter, Rice for 48 years, is retiring and has transferred his entire interest to the consolidated companies.

Bulkley, Dunton is not a newcomer to New England. Nearly a century ago the Bulkleys built a mill in Middlefield, Mass., and later purchased another in the same locality. Edwin Bulkley, one of the founders of the 113-year-old organization, financed other paper mills. In recent years, Bulkley, Dunton has maintained branch offices in Springfield and New Haven. Also the distributor of the products of several leading New England mills, the company's history is closely associated with that of the paper industry in New England.

The new board of directors of Carter, Rice consists of C. A. Esty, J. O. Bulkley, W. H. Cowles, and J. C. Marvin. Officers are C. A. Esty, president; J. O. Bulkley, treasurer; D. A. McGreenery, assistant treasurer; J. C. Marvin, executive vice president; John H. Brewer, vice president, and W. H. Cowles, vice president.

Swedish Industry Executive Visits U. S. Mills

I. Wilhelm Lilliestrale, a member of the company of Wifstavarfs Aktiebolag, Wifstavarf, Sweden, is a visitor in the United States. He expects to be in this country for several months and will call on a number of pulp and paper mills and attend the National Paper Week in New York in late February.

Ingenuity Of Operating Staff Solves This Mill's Water Problem

George D. Jones, works manager, and Albert Yraola, technical director, of the Seaman Paper Co. mill at Otter River, Mass., feel that they have a paper mill story to top them all. Mr. Yraola, a studious looking young chap, grins wryly when he claims that his is the only mill in the country that ever had to shut down because of carburetor trouble.

It happened this way. When the mill was taken over by the Seaman organization in March, it was found that considerable construction work had to be done on the building which houses the paper machinery, and that the nearby roadway, which was in a sad state of disrepair, required rebuilding. This left Mr. Jones and Mr. Yraola with only two courses to follow: Either find a new source of water supply while the work was going on, or shut down production entirely.

Calling in Charles Crouch, master mechanic, the three put their heads together and came up with a novel idea. They rented a water pump powered by a six-cylinder Hercules gasoline engine from the Boston Harbor Department, bought several hundred feet of steel pipe and two flexible lengths of 6-inch rubber hose. As soon as the equipment was delivered, they trundled the pump to the bank of the Otter River, dropped the intake hose into the stream, welded the pipe sections together, running the line to the mill's water storage tank more than 150 feet away, and dropped the output hose into the tank.

Soon, the jerrybuilt "Rube Goldberg," which took only four hours to install, was delivering 90,000 gallons of water per hour, and continued to do so during the months of March and April, with only one major interruption. Production was stopped in late April for a few hours, when "Herky" developed carburetor trouble.

"It was a wierd feeling," Mr. Yraola recalled, "to start work each morning by cleaning a carburetor and filling a gas tank—I'll bet we are the only people in the industry that ever did it."

Any takers?

This is how Seaman Paper Co. solved water problem at Otter River, Mass. Once the little 15-ton mill had to shut down because of carburetor trouble in this pump engine.

Improvements Made At New Seaman Mill

An improvement program at the Otter River, Mass., plant of the Seaman Paper Co., purchased from the New England Pulp and Paper Co. last March, which was previously reported, is proceeding satisfactorily.

Recent work included construction of a new roadway and rebuilding of roof and walls of the structure housing paper machinery. Two new Dilts beaters, and a new machine room ventilating system, manufactured by Ross Engineering Corp., have been installed. A Noble and Wood jordan and an 1150-pound Wells pulper have been rebuilt and overhauled, and new flat screens installed.

Future plans call for installation of direct drive to paper machine, and addition of finishing room and converting machinery.

The improvement work is under direction of Clayton Seaman, vice-president, who also announces additional innovation of a hot lunch service for employes.

Kraft Paper for Another Newspaper

Another experiment in using kraft paper for "newsprint" is reported from Raleigh, N. C., where the News and Observer printed most of a recent Sunday issue on unbleached kraft paper from the Halifax Paper Co., the Roanoke Rapids, N. C., mill owned by Albemarle Paper Mfg. Co. of Richmond, Va.

Recently in these columns we reported a similar experiment by the Philadelphia Record, both being made because of the current newsprint shortage.

The Raleigh paper said:

"It is a clean example of the industrial possibilities of our eastern Carolina country. In the future it may be possible to add an additional cash crop of wood pulp as well as a newsprint industry."

The News and Observer invested an additional $35,000 in the experiment. The paper was made to order and under instructions the Halifax Paper Co., the manufacturers, put as much yellow as possible in the product.

The kraft was found in some preliminary test runs to be ink repellent.

Beane Sales Manager For the Bristol Co.

H. E. Beane has been appointed general sales manager of The Bristol Company, Waterbury, Conn., according to announcement by Howard H. Bristol, president.

Starting as a sales engineer, Mr. Beane has been associated with The Bristol Company since 1920.

Ted Osmund Retires From Posts

THEODORE OSMUND, one of the pioneers in the Pacific Coast pulp and paper industry, who has retired from his position as Vice President and Purchasing Agent of Oregon Pulp & Paper Co. and Columbia River Paper Mills. His responsibilities and interests were even broader than these titles indicate and colleagues in the industry generally hope he will continue to take a perhaps less active interest in industry's welfare.

Mr. Osmund lives at 250 Northwest MacLeary, Portland, Ore., and he also has a home at Gearhart, on the Oregon oceanside.

Associates in the Pacific Coast pulp and paper industry will miss the counsel and quiet but capable cooperation they so often had from Theodore Osmund, who has retired as vice president and secretary of Oregon Pulp & Paper Co. and Columbia River Paper Mills.

It is hoped, however, that Mr. Osmund, a pioneer in the industry, will continue to take an interest in its affairs. His brother and son are in the Osmund Co., Portland, Ore., a house dealing in paper and other supplies. His home is at 250 Northwest MacLeay, Portland. He was ill in August but has finally recovered.

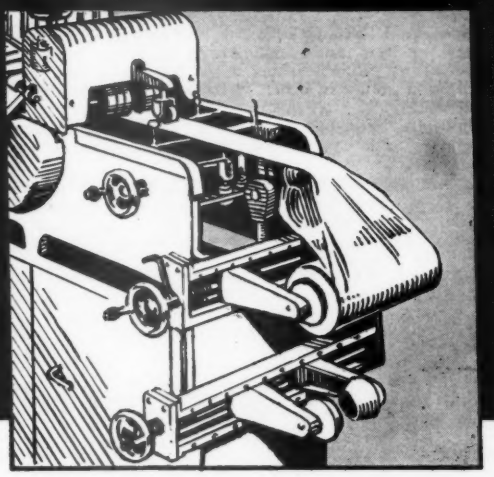
Mr. Osmund is the second official of his company to retire in the past several months, W. P. Donnelly having stepped down as auditor after 23 years' service.

Mr. Osmund's duties and interest were so diverse that it has taken more than one man to carry on where he left off in the Portland Oregonian building headquarters of the Leadbetter companies.

Taylor Alexander has become a vice president of the company, and now is handling log procurement as well as his former duties of sales manager. Nils Teren, of course, carries on as vice president with supervision over mills.

Two young veterans of World War II, formerly in the Los Angeles office of the organization, have moved to Portland. H. M. Youel is general auditor and office manager. He was a senior lieutenant in the Navy in submarine service in the South Pacific and before the war was accountant in Los Angeles. George McCord, now serving in the purchasing department in Portland, is the other newcomer. He was a captain in infantry in European war theaters.

where high temperature is a problem



Cycol Block Greases

These four special-purpose members of the Cycol line of industrial greases will prove useful, convenient and economical. They are soda base greases made by fire-cooking, and are exceptionally high in melting point.

Cycol Block Grease—light yellow, fibrous, good for callendar roll bearings and kiln bearings.

Cycol Hytem Block Grease—yellowish green, fibrous, and good for dry roll-and-heater bearings.

Cycol Journal Grease—dark green, smooth and spongy. Sold in sticks as well as block shape.

Cycol Rod Grease—yellowish green, sold in individually wrapped sticks in two sizes, as well as blocks.

Consult an Associated Lubrication Engineer for specific job recommendations in your plant. A phone call will bring him.

Call your Associated Representative for expert help on any lubrication problem.

Listen to Associated Basketball Sportcasts

TIDE WATER ASSOCIATED OIL COMPANY

BROWN CO.

(Continued from page 26)

barrels and cotton sacks had been used.

1921—Superbleached pulp., i.e., pulp treated with chlorine water in final bleaching stage to raise brightness without loss of strength. Probably first use of elemental chlorine in pulp bleaching stage. Later elemental chlorine was used in first step of a bleaching sequence; such prechlorination made possible the development of successful bleaching sequence for sulfite pulp.

1922—Graphite electrodes for chlorine cells were impregnated with linseed oil containing driers. These had double life of earlier paraffine-treated electrodes.

1923—Paper towels from strong kraft pulp.

1924—Commercial production of high-alpha purified sulfite wood pulps, in continuous process on large scale.

1924—Alkaline bleaching process, i.e., use of alkali added to hypochlorite to control bleaching reaction, made possible production of wood pulp of higher brightness, better brightness-stability, and higher strength.

1925—Sulfite cooking acid with sodium base.

1926—Very porous bulky web from high-alpha sulfite pulp. It was made on machine specially designed for this purpose and in which web was dried in place on large drum. It was particularly suitable for impregnation. Later improved webs were used in gas-mask canisters.

1926—High-alpha sulfite pulps for rayon. These pulps produced in low, medium, and high-viscosity grades.

1926—Removal of "fines" (short fiber fragments and cells) from sulfite pulp, in order to reduce resins and improve bleachability.

1927—High-alpha, semi-bleached sulfite pulp. Had sufficient toughness to serve as substitute for rope fiber in sandpaper, etc.

1927—Addition of greatly overbeaten pulp (gel) to unbeaten pulp to increase mullen strength and yet preserve tearing strength upon beating.

1927—Photographic pulp, replacement for highest grade imported bleached rags.

1927—"Cold' alkali refining process for purifying pulp. This cold alkali refining was basic development in wood pulp purification.

1927—Selection from pulp of longest, strongest and purest fibers for pulp of highest quality and tearing resistance and other qualities.

1928—Onco insoling—one of first synthetic insolings to be made from wood pulp combined with latex.

1928—White, bleached sulfate pulp having strength of kraft pulp but whiteness of bleached sulfite pulp. This was revolutionary advance in art and opened up vast new outlets for sulfate pulp.

1929—First mill run of pre-hydrolyzed sulfate base alpha pulp.

1929—White coffee-bag paper for single-ply bag. A kraft bag with glassine liner had been used previously.

1929—Process for conditioning wood pulp for nitration. This method adopted and used by Canadian government in World War II

1930—Finely ground cellulose from purified wood pulp.

1931—Bleached high-alpha hardwood sulfite pulp for papermaking.

1931—Welt insoles; probably first synthetic insoles suitable for use in Goodyear-welt shoe construction.

1931—White flour-sack paper from bleached and sulfate pulp.

1931—Sandpaper base from high-alpha sulfate wood pulp.

1931—Bleached hardwood sulfate pulp of high whiteness produced on commercial scale.

1931—Wet-strength flat papers for special uses such as shoe covers.

1931—Wet-strength paper towels.

1932—An improved sulfite pulp, developed in 1927, set new higher standards of whiteness and permanence for bleached sulfite pulps.

1935—Purified kraft pulp suitable for manufacture of electrical condenser tissue.

1936—Hardwood high-alpha sulfite pulp for some viscose processes.

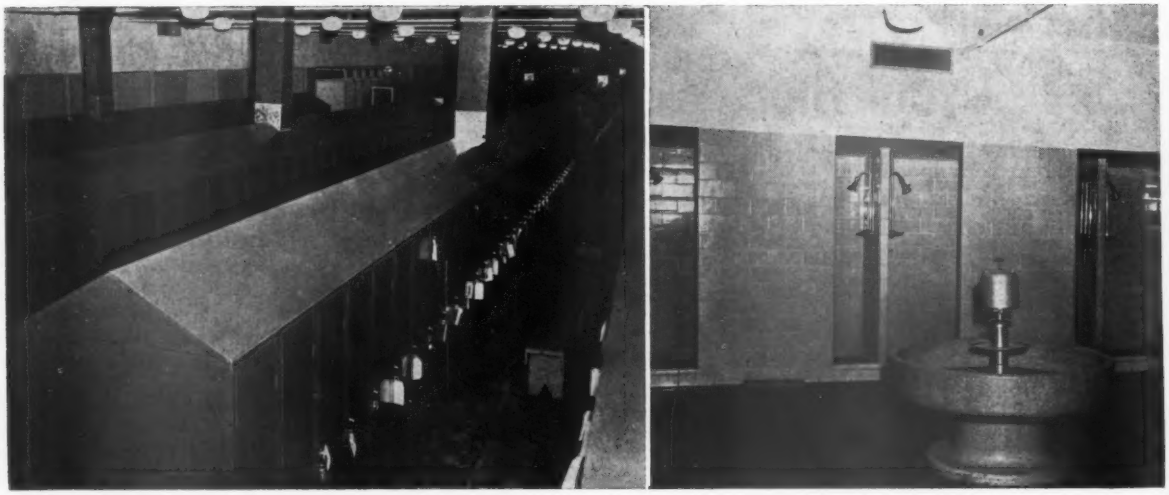
1937—Resin for imparting wet-strength to paper which could be added at beater.

1937—Production of paper of superior wet strength by patented process applied on the paper machine itself.

1937—Wet-strength paper for printed draperies.

1939—Improved bleached sulfate pulp with permanency of whiteness approaching that of sulfite pulp.

West Linn's "Hollywood" Locker Rooms—



At left, new lockers at West Linn, Ore., division of Crown Zellerbach Corp. At right, the "Hollywood Bathroom," as employes have dubbed it, showing tile floor and shower stalls and one of four pressure-operated wash basins. There are 24 shower stalls and 750 steel lockers for men employes. Women also have new facilities.

First building at West Linn, Ore., mill of Crown Zellerbach Corp., completed under its expansion program for transformation of a portion of the mill to produce coated paper for magazine publishers, included 2 locker rooms, rest rooms and a lunch room.

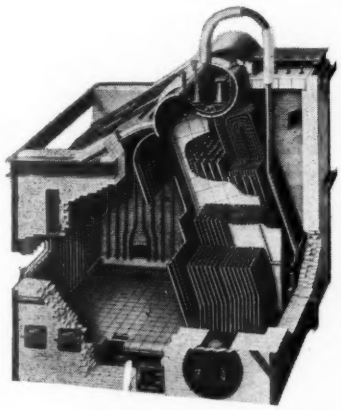
Pictures presented here are not cut from a movie magazine for the purpose of publicizing a "Hollywood Bathroom," but show views in the men's section of the locker and shower room in the new section at West Linn. This provides complete "country club" facilities for 750 men, including individual steel lockers, 24 shower bath stalls, each of which has 2 shower heads in tiled compartments, together with adequate toilet and lavatory provisions.

A like section for women provides lounge, restrooms and lockers for 75. A new lunchroom for all employes is another improvement on the program.

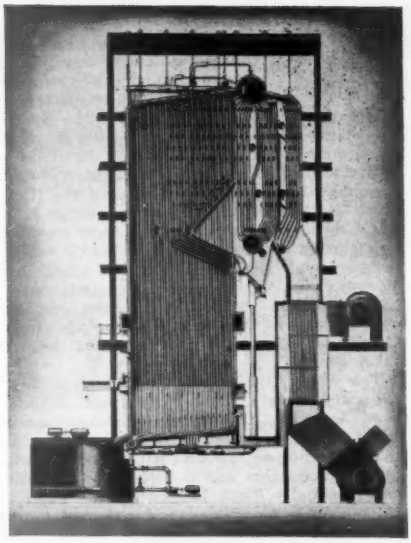
Mill F, which will house the calendering section for magazine-type paper production, adjoins the new locker room building.

B & W EQUIPMENT for PAPER MILLS

B&W's broad familiarity with the paper industry for over 60 years pays dividends to mill operators in terms of continuity of service, operating efficiency, and greatest return on investment wherever B&W equipment is used. Consult our nearest office for prompt cooperation in modernizing existing plants or planning future developments.

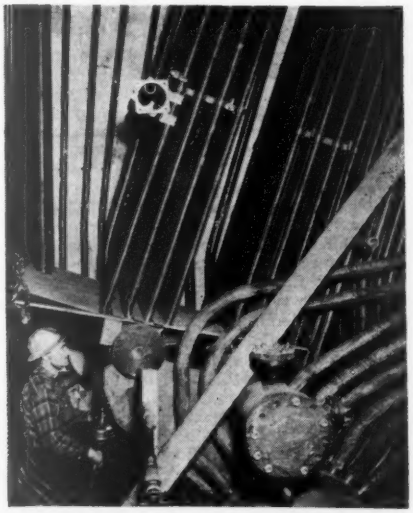


BOILERS. The complete line of B&W boilers and related equipment meets all paper mill requirements for dependable, low-cost steam generation in any combination of capacity, pressure, temperature, fuel, and space conditions.



RECOVERY UNITS. High chemical recovery, dependable steam generation and ability to handle wide variations in black liquor concentrations are obtained at low cost in sulphate paper mills with B&W-Tomlinson Recovery Units.

PRESSURE VESSELS. Sizes and shapes of dependable welded construction for any paper mill requirement can be fabricated by B&W from carbon, alloy, or clad steels. All vessels are x-ray inspected and stress relieved. These 30-ft. pulp-digester tanks were designed for a working pressure of 150 psi.



TUBES. Seamless and Welded Pressure Tubes are made by B&W in a full range of analyses from low carbons to high alloy steels including stainless steels, for any high-temperature, high-pressure application in paper mill equipment.

S-71

Water-Tube Boilers, for Stationary Power Plants, for Marine Service . . . Water-Cooled Furnaces . . . Superheaters . . . Economizers . . . Air Heaters . . . Pulverized-Coal Equipment . . . Chain-Grate Stokers . . . Oil, Gas and Multifuel Burners . . . Seamless and Welded Tubes and Pipe . . . Refractories . . . Process Equipment.

BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.

85 LIBERTY STREET, NEW YORK 6, N.Y.

PETRIE'S ARTICLE

(Continued from page 46)

hydrapulper is charged in a very few minutes and started up. The impeller is designed to give a vortical circulation to stock and at the same time directional vanes impel a circular movement of stock around the tank and by this unique vertical and horizontal circulation, pulping is accomplished rapidly. At the end of the pulping cycle the stock is dumped through a hydraulically operated non-clogging dump valve. A shower is mounted around the top edge of the Hydrapulper for quick wash up between batches. This water is also supplied from the overhead tank previously mentioned. By this method it can clearly be seen that every batch will have uniform consistency which is essential at the start of any stock preparation system. A typical pulp charging conveyor (shown in the picture of the Hydrapulper in the preceding article) is designed so wires, strings, and wrappings can readily be removed. Color and chemicals can be added and thorough blending takes place.

This brings us to the dump or blending chests where we bring up one of the most important subjects of stock preparation: Agitation. It has long been recognized that stock to produce a uniform sheet must be thorougly agitated throughout the whole preparation and papermaking cycle. If accomplished, higher production and a better product result. Shartle, Dilts, and Alexander Fleck Ltd. of Canada made an extensive study of the subject and designed a complete line of pump, propeller, and paddle type agitators. Not any one of these is a cure-all for all conditions.

With each problem, a thorough study must be made of conditions in the mill and the particular stock to be agitated and chests and agitators designed for that set of conditions. Designs for one grade of stock may prove unsatifactory on another grade or even a different consistency.

Agitation should be considered as two problems—one of circulation where it is desired to keep the fibers in suspension only, and the other is blending where two or more kinds of stock must be mixed. Propeller-type agitators can be used very satisfactorily for both operations and by the use of variable pitch blades, it is possible within certain limits to suit agitation and horsepower consumption to the stock. This type of agitator can be suited to many different shapes of chests, and while it is possible to fit a propeller agitator to an existing chest, it is advisable that the chest and agitator be designed to suit each other.

One of the latest designs of vertical propeller agitated tanks of the cycling and blending type is the Hydro-cycle tank, designed and patented by Howard Hyman of Alexander Fleck Ltd. to meet a special need where space is limited. This type is suitable for blending, refining, and as a normal stock chest.

The pump type agitator as developed by Shartle Brothers is suited for blending and consists of a low head high capacity pump mounted at the end of a U-shaped chest, commonly known as a cycling chest. On the U-shaped chest the stock is taken by the agitator from one side of the U and discharged into an intermix chamber which extends across the end of the chest near the top. An adjustable lip on this intermix chamber can be regulated to allow some of the stock to short circuit back into the suction of the agitator insuring a complete blending and helps to submerge floating stock, color or chemicals. In all types of chests, it is preferable they be of the open top type for washability, visibility, and measuring of batches and dilution to proper consistencies. All conditions must be known before proper equipment can be designed to insure that thoroughly blended and agitated stock is delivered to the next step in the stock preparation system.

This step is the actual preparation of the fibers to suit the paper made and is known as cycling refining and the equipment used is the Hydrafiner and Cycling chest. The Cycling chest can be the conventional U-shaped chest just described, or can be the Hydro Cycle chest as brought out by Alexander Fleck. The Hydrafiner is a machine designed to refine paper making fibers in preparation to be formed into a sheet of paper, and was invented as an improvement over the old Hollander beater. It is a conical type of refiner resembling a jordan but is operated differently and for a different purpose. The Hydrafiner is built in sizes to meet various demands and may be regarded as a beater without a tub or a beater which requires a slushed stock furnish. It is generally equipped with relatively wide coacting bars in the plug and shell cast steel liners, has an impeller on the small end of the plug, and rotates at an RPM sufficient to produce a peripheral velocity as high as 6500 F.P.M. at the large end of the plug. Hydrafiners are readily adaptable to either batch or continuous operation and can be made an integral part of several types of stock preparation systems.

A typical batch Hydrapulper and cycling refining chest installation of all cast iron construction is the "tugboat" type, especially designed to promote stratification of the movement of a body of stock on a horizontal plane, in accordance with smooth stream flow hydraulic conditions. Agitation in this chest, during the cycling refining phase of operation is governed by flow capacity of the Hydrafiner or Hydrafiners employed and the type of hookup specified for the Hydrafiner. The centrifugal pump agitator serves to flood the inlet of the Hydrafiners with a definite inlet pressure condition and total flow capacity is so arranged that surface velocity of a body of stock in the cycling chest is in the order of 8 to 10 ft. per min.

During the cycling refining stage, all fibers pass through the Hydrafiner the same number of times, and after the refining is completed, the three-way valves are so adjusted that the flow from the agitator pump is by-passed to the high side of the cycling chest and a portion of this flow is bled off into the inlet side of the agitator pump in the approximate ration of 10 to 1 respectively, so that blending of the furnish, including chemicals, such as, color and sizing and loadings may be accomplished efficiently. The cycling refining chet may be dumped through the Hydrafiners or by way of the agitator pump alone, to a neighboring chest usually on the same floor level.

In combining Hydrapulper and vertical type of cycling chest in combination with Hydrafiners, there exists some differences in the methods of operation, and, of course, there are limitations governing the adaptation of the two types of chests.

After the refining cycle is completed, the refined stock is mixed with the chemical portion of the furnish by the action of the impeller agitator at the bottom of the dividing wall of the chest. During the mixing period, the Hydrafiners proceed with the cycling refining of a new batch of pulp, which had previously been prepared in the Hydrapulper.

The intermixing and blending of fibers and chemicals is performed efficiently by a bypass system of openings in the dividing wall of the chest; similar to the bypassing action of a portion of the agitator pump capacity on the horizontal type chest. The vertical chest is normally dumped by gravity to a machine chest.

There exist natural limitations of the application of the two types of cycling refining chests described above and these limitations are governed by the physical condition or construction of the existing paper mill stock preparation buildings. There is also the personal preferences of the paper manufacturers to be considered and the type of paper or paperboard to be manufactured.

Feature of Booth System

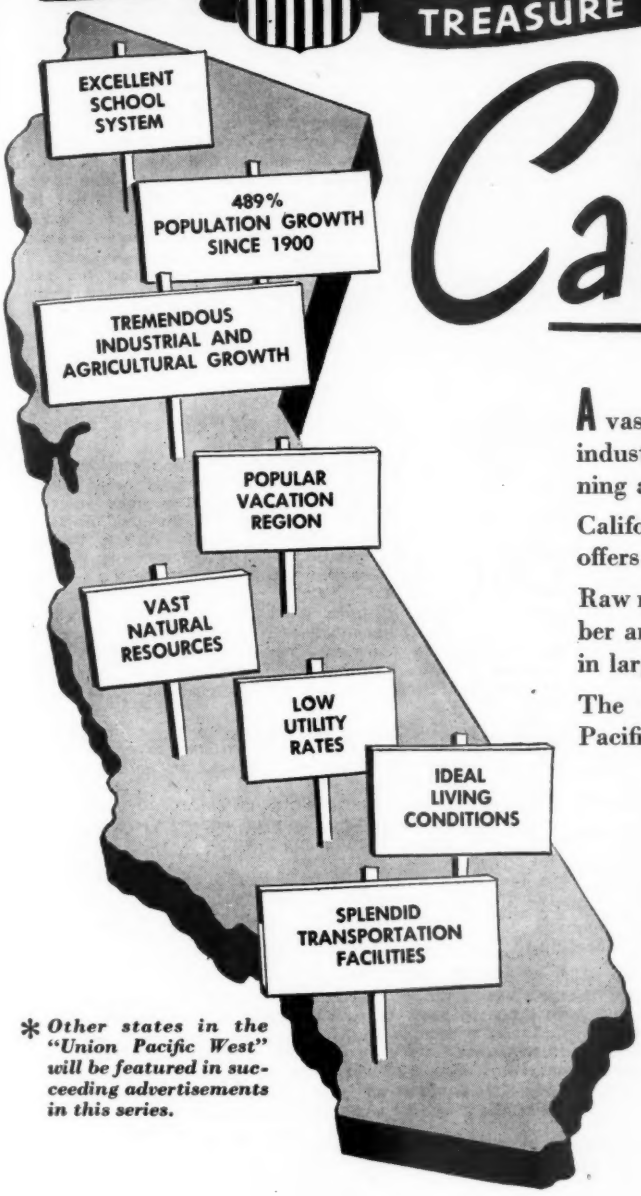
One of the salient features of a system installed at the J. R. Booth Ltd. mill in Ottawa, Canada (described in another article on page 33), is the means for clearing broke completely before the batch cycling refining stage of preparation commences. While the Hydrapulper will normally defiber an air dry virgin pulp completely, some broke specks will pass to the refining system. Therefore, by pumping the Hydrapulper blended stock through the Hydrafiner en route to the cycling tanks, all fibers are out-of-bundle before refining begins and the paper maker has assurance that no underfibered specks of broke or pulp can pass on to his paper machine.

We have several adaptations of continuous refining, but will describe only one here that is a method of combining a Hydrafiner with a Jordan. This method has the inherent combination of features such as flexibility, simplicity of installation, and operation, horsepower and initial installation economy, plus finger tip control. The raw stock chest serves as a continuous supply of completely blended furnish which is delivered to the cycling head box, located over the Hydrafiner by an agi-flow pump. An agi-flow pump is a combination of stock pump and agitator. While the agitator part of the pump keeps the stock in the chest evenly circulated, the pump part draws stock from the discharge side of the agitator and delivers an even flow of stock to the cycling head box, irrespective of the level of the stock in the chest as a constant head is maintained on the suction side of the pump. A standard cycling head box of chrome steel is employed for metering the stock to the system, as well as, providing a means of recycling the capacity of the Hydrafiner back to the inlet. This recycling system further provides an accurate control over the number of passes obtainable through the Hydrafiner for the desired freeness drop and strength development. The cycling head box may be duplication by additional sections for the multiple requirements of Hydrafiners and that the weir gates can be controlled to provide either parallel or a series flow through the multiple units. A tabulation of Hydrafiner performance data gives an indication of the type of performance that may be regulated by finger tip control in this type of system when furnishing a virgin pulp, having a Canadian freeness of 700 cc. Naturally the performance of the system is dependent entirely on the furnish consistency, horsepower imput, and the type of tackle

UNION PACIFIC

TREASURE MAP OF INDUSTRY

California *



A vast opportunity for development awaits industrial and commercial concerns planning a west coast location.

California's population, steadily increasing, offers a tremendous easy-to-reach market.

Raw materials . . . minerals, petroleum, lumber and agricultural products are available in large quantities.

The Golden State is ideally located for Pacific export trade.

Hydro-electric power, nearby natural gas and oil fields, a mild all-year climate are industrial advantages.

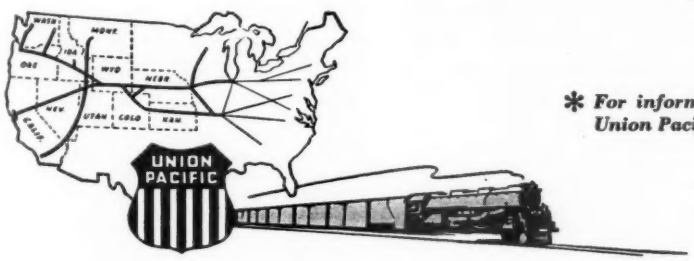
Freight transportation facilities are unsurpassed. California is one of eleven western states served by the Union Pacific Railroad.

For industrial expansion, consider California. For dependable, all-weather transportation, to or from the West, we suggest—

be Specific – say "Union Pacific"

* *Other states in the "Union Pacific West" will be featured in succeeding advertisements in this series.*

* *For information address Industrial Department, Union Pacific Railroad, Omaha 2, Nebraska.*



UNION PACIFIC RAILROAD

THE STRATEGIC MIDDLE ROUTE

employed. A Miami Jordan is chosen to meet the requirements of an installation. This may call for one or several jordans, depending upon the size employed and the grades of paper to be made. A most significant feature of his continuous refining system is the alternate delivery of stock from the jordan direct to the paper machine, which obviates the need for the paper machine chest. In any instance, the stock capacity metered into the Hydrafiner will normally be equivalent to the production requirements of the paper machine. Where no chest is employed, the production capacity of the system is accurately regulated at the Hydrafiner inlet and controlled by the paper machine tender himself. This system providing finger tip control over stock preparation is adaptable to practically all grades of fourdrinier paper, as well as, cylinder boards.

Pioneer-Flintkote System

We have been dealing with the perparation of stock from clean pulps, and will now turn our attention to preparing stock from mixed waste papers and to secure the finest pulped stock, requiring the least amount of jordaning with the best cleaning of the stock and least possible paper wastage in rejects. The system shown in (the Flow Sheet of the Pioneer-Flintkote Co. No. 2 System published with this article) represents the best system known today.

As with clean stocks, the Hydrapulper is also the best pulping unit for waste papers. The continuous type of Hydrapulper is used and its construction is similar to the Batch Hydrapulper described earlier in this paper, with the exception that the stock is extracted continuously through perforated plates located on the sloping bottom of the pulper tub. The perforations are usually about ⅜" in diameter.

The waste paper is placed on a charging conveyor in bale or loose form. The wires are cut and the operator, by means of a push button, can feed the Hydrapulper as desired. Water at a temperature of 140° or hotter is necessary in the Hydrapulper to meet its rated capacity. Heavy rejects, such, as, bottle caps, large pieces of glass, metal and other heavy materials that will not pass through the perforated plates, are removed by means of a Murphy Junk Remover, which consists of a vertical bucket type conveyor enclosed in a sheet steel casing, mounted close along-side the Hydrapulper tub with the foot well below the bottom of the Hydrapulper. The bottom of the Hydrapulper is connected to the bottom of the junk remover by means of a rectangular chute. The heavy rejects drop down this chute and are carried up by the buckets and dumped into a box located inside the junk remover casing. This box has a perforated bottom and suitable white water connection keeps a constant supply of water washing up through the junk carrying all good fibers back to the pulper. A quick opening door on the side of the casing enable the operator to remove the junk periodically. Rags are removed by means of a continuous ragger located on the edge of the tub. This raggar consists primarily of a large V-shaped pulley, driven by a ½-H.P. motor through a suitable reduction unit and speed changer. This ragger is started up by placing a heavy piece of old rope over the V pulley with one end in the stock in the pulper. The rope over the V pulley is held firmly in place by means of a heavy cast iron disc, mounted on swing arms. Due to the rapid circulation in the tub, rags are twisted around the end of the rope in the stock and the speed changer is set to gradually pull the rope out of the stock. As the operation continues, more rags twist themselves on to the rags on the end of the rope, and a continuous rope of rags is formed. The speed of the ragger being regulated to suit the quantity of rags in the stock. The stock, which is usually about 1½%, passes through the perforated plates to a regulating box from which it is taken by a Shartle DS pump and delivered to an automatic grit remover head box. Enough flow is maintained to the head box to enable some to overflow back to the Hydrapulper and a white water connection ensures an even consistency of 1½% going to the grit remover proper, which consists of a primary and secondary section, each consisting of a trough with a V-shaped bottom. At the bottom of the V is a screw conveyor. In the primary section of the grit remover, all heavy rejects settle out and are carried by the screw conveyor to a flight type elevator at the end, that raises the trash above the level of the stock. The accepted stock is discharged to a Classifiner which consists of two vertical screen plates with ⅛" perforations, mounted in a cast iron casing. A four arm rotary scraper revolves between the plates which are 6" apart, keeping them free from plugging. The stock enters between the plates, passes through the perforations and onto the secondary section of the grit remover where it is thinned down to a consistency of ½ of one per cent. The rejects from the classifiner are discharged to a small dilution tank to which is connected a Shartle disintegrator pump. This unit resembles a jordan with a steep angle plug and shell, and the plug has a hand wheel adjustment similar to a jordan. This disintegrator pump will break up unpulped paper stock, but will not chew up match sticks, cellophane, rubber bands, etc.

The discharge from the disintegrator pump goes into a Selectrap, which is a cone-shaped screen with ¼" holes, mounted on a shaft slightly off the horizontal. The stock enters the inside of the cone at the large end, and the good fibers pass through the perforations while the rejects work to the small end of the cone and are discharged to the trash conveyors on the grit removers. The accepted stock passes to the secondary grit remover. At a consistency of ½ of 1%, sand and other small particles of material settle out and is conveyed to the end of the grit chamber where it is elevated out of the stock by a flight type elevator. The accepted stock flows over a proportional wire to the thickeners where it is thickened to 3 or 4% and discharged to a agi-flow chest ahead of the jordans.

The final phase in stock preparation is accomplished by Miami jordans, which are built in ten sizes to suit practically every production condition met within the mills. The base, shell, and bearing pads are all cast in one piece, and the shell, bearing pads, and packing boxes are all bored in one operation, insuring perfect alignment and elimination of vibration. Anti- friction bearings are mounted directly on the shaft, and thrust screws apply pressure directly on the center of the shaft. Plugs are statically balanced, and all parts are machined to jigs and are interchangeable. The X-66 plug and bulldog shell fillings are made in a great variety of combinations, giving the operator the choice of any degree of cutting or hydration he might desire as a final control of his stock before it goes to the paper machine.

By use of properly designed equipment in the proper combinations in stock preparation systems, we are now able, by means of remote control, to place the whole stock preparation system under the control of one shift operator. The control panel and testing station is centrally located, and if the open type of stock chest and a continuous refining system is used, the operator has his stock in view at all times.

Cottrell Precipitator First New Camas Unit

The first unit of the new expansion program at Crown Willamette Paper Company, Division of Crown Zellerbach Corp., Camas, Wash., went into production the week end of Jan. 12, when a new Cottrell precipitator was inaugurated in the kraft mill process recovering salt cake. This is a Western Precipitation Corp. installation.

According to G. W. Charters, assistant resident manager, this additional unit supplementing the present recovery equipment makes it possible to shut down the older unit for maintenance before enlargement of production, when both recovery units will be needed. The additional installation will function as an integral part of the expanded manufacture of kraft.

First Cooperative Forest Unit in U. S.

Two pulp mills on Puget Sound and a new board mill now under construction, as well as lumber and plywood operations, are apparently assured of a continuing supply of raw material until the year 2047 A.D. under a Simpson Logging Co.-U. S. Forest Service cooperative sustained yield forest unit—first of its kind in this country.

Other similar units are in consideration in other areas of the U. S.

The new insulating board mill is being built by Simpson Logging Co., at Shelton, Wash., and is expected to be in operation in a few months. Rayonier's Shelton pulp mill gets part of its wood supply from Simpson as does the newsprint mill of Crown Zellerbach Corp. at Port Angeles. If these mills wish it, they could probably count on this supply for a century to come, as a result of this agreement. And of course, Simpson Logging Co., already 50 years old, will have timber for its lumber and plywood plants from the unit.

This unit comprises 158,000 acres of Simpson Logging Co.'s own forests and 111,000 acres of federally-owned forests in the southern part of Olympic Peninsula.

The company may log only 100,000,000 bd. ft. annually for the next decade (equivalent to 200,000 cords) and 90,000,000 bd. ft. annually for the ensuing 90 years. It is calculated this will keep drain and growth balanced.

There are now 4½ billion bd. ft. of federal timber and one billion bd. ft. of company timber in the unit, according to the Forest Service. The agreement was signed in Washington, D. C.

The future existence of the towns of Shelton and McCleary, Wash., are also assured by the agreement.

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Sullivan and Shively Tour South and East

F. F. Sullivan, assistant to the resident manager, and J. L. Shively, bag factory superintendent, both of Crown Zellerbach Corp., Camas, Wash., left in early January for a month's business trip through the southern states and along the eastern seaboard. They are returning to Camas by way of Los Angeles.

New Men Engaged At Florida Pulp & Paper Co.

C. C. MacPike has been named safety director for Florida Pulp & Paper Co., Cantonment, Fla., and James M. Fleming, Jr., former special agent of the Federal Bureau of Investigation, was named personnel director of the same company, Florida Pulp & Paper Co., Cantonment, Fla.

Power Companies Offer Research Service

Puget Sound Power & Light Co., Seattle, Wash., and other power companies of British Columbia, Washington, Oregon, Idaho and Montana, have established a research advisory service for aiding its industrial and commercial customers to solve marketing and manufacturing problems.

The companies place at disposal of consumers a vast pool of information tapped from 900 research laboratories in this and other countries. Requests are briefed and funneled by the power companies to known laboratories familiar with the particular problems.

Du Pont Promotions In Dyestuffs Division

Ambrose R. Chantler, who has been director of domestic dyestuffs sales for the Du Pont Co. since 1929, assumed the new position of general director of sales of the dyestuffs division recently, it was announced by Dr. Ivan Gubelmann, manager of that division.

Mr. Chantler has been replaced as director of domestic dyestuffs sales by Eric J. Monaghan, who has been assistant director. Dr. Miles A. Dahlen, assistant director of the dyestuffs divisions technical laboratory at Deepwater Point, N. J., has become assistant director of domestic dyestuffs sales.

This reorganization centralizes all sales activities of the dyestuffs division.

School Teachers Meet Mill Executives

Acquaint the school teachers and school officials in your mill town with the top mill executives and key operations men—that's a policy that one big paper company thinks will pay dividends in creating a better understanding and loyalty in the mill communities.

An "educators' get-acquainted party" was held recently at Camas, Wash., to give all employes of the school systems, both grammar and high school, of the Camas and Washougal, Wash., districts an opportunity to meet with community leaders as well as the executive, staff and departmental supervisors of the Camas mill of Crown Zellerbach Corp.

Rayonier Executives From All Divisions Discuss Labor Relations

A Rayonier "convention" on industrial relations was held recently by personnel supervisors and other representatives from the four Rayonier mills and from the Timber Division, Central Engineering Division and Industrial Relations Department—all three based in Olympia, Wash., and the Central Chemical Laboratory—based in Shelton, Wash.

The entire group met in Olympia under guidance of Robert M. Gilmore, former safety director who is now acting head of the Industrial Relations Department in Olympia. He read a message from President Edward Bartsch specifying that "a spirit of partnership in all relations with employes" be a guiding policy.

Andrew Gow, member of the Industrial Relations Department, gave a paper on trends in labor relations, in which he delved deeply into history from earliest days of collective bargaining — in about 1825.

A message from Sales Manager John W. Bagwill of New York, who formerly handled industrial relations in western mills, said "our responsibility is to create conditions that will make people proud to work for Rayonier."

Ray Shrigley, personnel director of the Fernandina, Fla., division, reviewed a recent Southern industry industrial relations meeting in Asheville, N. C.

Goodbye, Appendix

Mrs. Wilhelmine Deiser, attractive switchboard operator at the Puget Sound Pulp and Timber Co., had to take time off for an emergency appendectomy.

A neighborhood firm
exporting Northwest pulp and paper

AGNER & FREDRICKSON CO.
Colman Bldg. Seattle 4

Established in Seattle since 1925

George Taves Passes

George W. Taves, formerly of Crown Zellerbach Corp., West Linn, Ore., died Jan. 5 at the Oregon City hospital. In 1909 he went to work at the West Linn plant in the sawmill department, and retired as a size and color man in Dec. 1945.

CONFIDENTAL
EMPLOYMENT SERVICE
FOR PAPER AND PULP MILLS
WE INVITE CORRESPONDENCE WITH EMPLOYERS SEEKING EXECUTIVES AND EXECUTIVES SEEKING NEW POSITIONS.
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WE ARE PROUD to have supplied all important conveyor belts for Weyerhaeuser's new barking-chipping plant at Longview.
GENERAL RUBBER & SUPPLY CO.
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Atwater 6565

Deepen Mill Channel

Deepening of the channel from Cumberland Sound up the St. Marys and North rivers will be effected by the U. S. Engineer Corps to provide a depth of 28 feet by a with of 200 feet which will permit ocean going vessels to load and discharge cargo at the plant of the St. Marys Kraft Corporation, St. Marys, Ga.

WANT A REPRESENTATIVE IN MISSOURI?
We have waited purposely until we felt that the cloud of supply might shortly be penetrated by that evasive silver lining. While we know that the clouds have not disappeared entirely, at least they are dispersing.
Those mills without connections in Kansas City, Missouri and it's trade territory on both fine and wrapping papers, are invited to contact us for a permanent and, we feel certain, agreeable connection.
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$S + O_2 \rightarrow SO_2$ GAS
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Short of Outlets?

Next time insist on adequate wiring. If you're planning to remodel or build a new home, make sure that you have plenty of outlets and plenty of circuits. It's a must for enjoyable electrical living.

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FRANK McLAUGHLIN, President

Prize Winners For Superintendents' Essays

Frank W. Roberts, superintendent at S. D. Warren Co., Cumberland Mills, Me., won first prize in the Superintendents' Association essay contest on the subject of cooperation by superintendents and foremen with management.

Second prize went to S. A. Brown of Rogers Corp., Manchester, Me., and third to Geo. R. K. Moorhead of Oregon Pulp & Paper Co., Salem, Ore.

Other division winners were Gordon Morseth, superintendent at Detroit Sulphite Paper Co.; George Harper of Mead Corp., Chillicothe, O.; G. B. Stidwell, Howard Smith Mills, Cornwall, Ont.; Roy Collar, Kimberly-Clark, Neenah, Wis.; King Evans, Paterson Parchment Paper Co., Bristol, Pa.; Charles Shoudy, West Virginia Pulp & Paper Co., Charleston, S. C., and the late E. A. Newman, of Crossett Paper Mills, Crossett, Ark., whose heirs receive his award.

Listed as second prize winners of $100 bonds in each division were M. E. Yeoman, Rogers Corp.; S. R. Olsen, Champion's mill at Hamilton, O.; Leon Mimms of Kalamazoo; Frank Stoughtop, Kapuskasing, Ont.; G. C. Beatteay, Edmundston, N. B.; Maurice Hunt, Kimberly-Clark Corp.; H. E. Burrell, Crown Zellerbach Corp., Camas; G. S. Bricket, Congoleum-Nairn, Inc., Cedarhurst, Md.; Ray Bennett, Ecusta Paper Corp., and N. H. Mailhos, Brunswick Pulp & Paper Co.

Only one woman was in the long list of prize winners—Vera Whitney Berney, supervisor of women personnel at the big Crown Zellerbach mill in Camas, Wash., was ranked third in the Pacific Coast division.

New Stream Study Started On West Coast

Members of the Pacific Coast Regional committee of the National Council for Stream Improvement met in Portland, Ore., December 12. The group consisting of 35 members reviewed progress made to date on the investigation of high-protein yeast products derived from waste sulphite liquors, being carried on under Dean George Gleason at Oregon State College. Authorization was also made for an aquatic-biology project to determine the effect of pulp and paper mill waste to species of fish native to the western streams. This study, also under Dean Gleason, will be carried on by Prof. R. E. Dimmick, at Oregon State College, head of the department of fish and game management.

Russell L. Winget, Executive Secretary, told PULP & PAPER INDUSTRY, "In every case we use the highest authority available," for carrying on industrial research projects of the National Council. This latest study is authorized to be carried on for the next two years.

R. S. Wertheimer, chairman of the Pacific Coast committee and vice president and manager of Longview Fibre Co., presided at the meeting.

Alcohol Prices Up

Good news for the few alcohol producers from sulfite waste liquor and waste wood on this continent is the U. S. government's recent price increases from 49 to 75 cents a gallon for sales from the government stockpile. As a result, industrial alcohol producers 28½ cents or more, with new prices from 82 to 90 cents a gallon.

STEBBINS

Complete Lining Service

MARATHON MILL

17 Plate Tile Lining Installations.

25 Semtile Block Construction Installations.

3 Plate Tile Lining & Semtile Midfeathers.

45 Stebbins Lining Installations.

MEETS TODAY'S NEEDS

The 45 linings installed by the Canadian Stebbins Engineering & Manufacturing Co. Ltd. in the new Marathon Mill is representation of the scope of service available to pulp and paper mills.

Stebbins Service is based on research and experience covering 63 years devoted exclusively to developing materials, designs, and installation techniques.

Wherever it may be, one contract, one responsibility covers the complete installation. This involves; a study of your problems, a design based on the chemical and mechanical requirements involved, and a construction that will assure long life.

Consult Stebbins regarding your next lining installation

Stebbins Engineering Corporation

SEMCO

TEXTILE TOWER SEATTLE 1, WASHINGTON

Tom Beaune Will Retire In March

Tom Beaune, veteran sulfite superintendent at Fibreboard Products Inc., Port Angeles, Wash., is going to retire in March, it was announced at the Coast Superintendents meeting in Seattle recently.

Mr. Beaune told his associates that he hoped to take a motor trip to Eastern United States after that date.

Pacific Mills Increase Power for Added Output

New units to power increases in Kraft production from 140 to 175 tons per day and in sulfite pulp from 65 to 100 tons, at the Ocean Falls, B. C., pulp and paper plant of Pacific Mills, Ltd., have been announced by President Paul Cooper.

This comprises installation of a new boiler, a new 5000 KW back-pressure turbo-generator and a used 4000 KW straight condensing turbo-generator. The installed cost of these units, with the necessary electrical feeders, switchgear, etc., to take the load into the mill load centers is approximately $1,000,000.

Most distinctive features of the new B. & W. boiler are its pressure of 725 pounds, which is highest of any boiler in this industry in Canada, and its capacity of 175,000 pounds per hour, the second highest in the Canadian industry.

Rayonier Director

Carl J. Schmidlapp, vice president and director of the Chase National Bank of New York, has been elected a director of Rayonier Incorporated. He will succeed W. H. Orrick of San Francisco, who resigned.

400 Attend Dinner At Bellingham

Over 400 employes and friends of the Puget Sound Pulp and Timber Co. attended the Annual Dinner held in the Leopold Hotel crystal ballroom, Bellingham, Dec. 23. A steak dinner was followed by an outstanding program of Northwest artists.

Lawson Turcotte, executive vice president, made a short talk in which he pointed out that in 20 years of operation, no work stoppage had ever occurred because of management-labor misunderstanding.

Sumner Chippers Ordered for St. Regis

A 153-inch chipper and a 110-inch chipper have been ordered from Sumner Iron Works, Everett, Wash., by the St. Regis Paper Co. Kraft Pulp Division at Tacoma, Wash.

These will be important units in the program for this big kraft mill to reorganize its entire wood preparation facilities, including the addition of a new whole log hydraulic barker.

Fibreboard Portland Expansion Before CPA

Application to construct a new carton plant in Portland, Ore., was made recently by Fibreboard Products Inc., to the Oregon district CPA. The new plant, increasing the Portland division's output by 50 per cent, is to be a one-story 200 by 600-foot building and is expected to be completed in about six months.

Paperboard cartons and boxes made in the plant will be used for frozen foods and other foodstuffs.

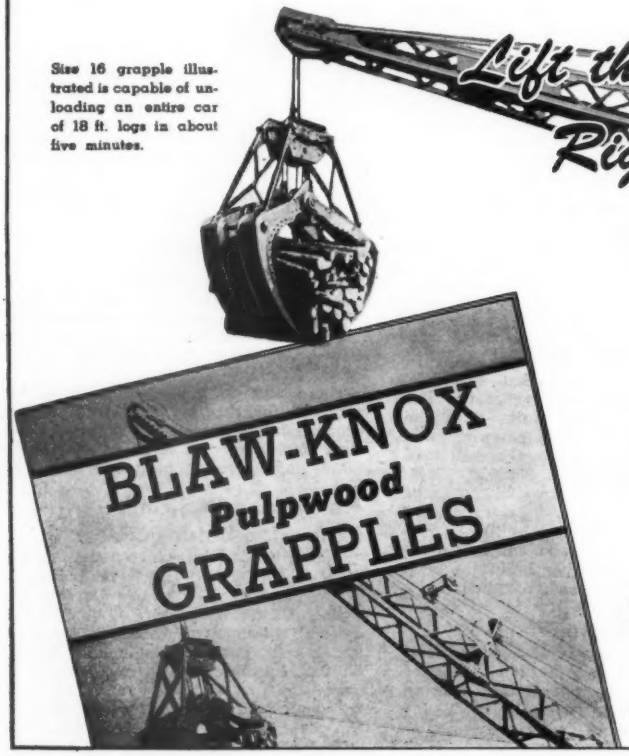
The Pulley with the Pull that Pays---

Horton Variable Speed Pulleys Represent a Remarkable Advance in Power Transmission

Pacific Coast Supply Company

PORTLAND, OREGON - SAN FRANCISCO, CALIFORNIA

Size 16 grapple illustrated is capable of unloading an entire car of 18 ft. logs in about five minutes.



Lift the One You Need Right Out of Bulletin #2043

Wherever pulp wood is handled you'll find Blaw-Knox grapples doing a fast, economical job — loading, unloading and stacking . . . From the photos, drawings and specifications contained in Bulletin No. 2043 you can select the one best suited to your needs. Write for it today.

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